



**BIG GAME FISHING
IN THE
NORTHERN GULF OF MEXICO
DURING 1975**

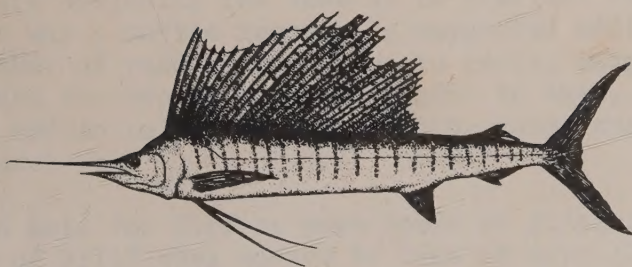
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NATIONAL MARINE FISHERIES SERVICE

SOUTHEAST FISHERIES CENTER

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INTRODUCTION

The northern Gulf of Mexico portion of the Oceanic Game Fish Investigations of the Southeast Fisheries Center, Miami, Florida, began from the Panama City Laboratory in late 1970. At that time, the objectives were:

- 1) To determine the distribution and abundance of big game fishes;
- 2) To determine the relation between their occurrence and environmental factors; and
- 3) To determine the biology of these fishes.

Five years of collecting data throughout the northern Gulf have contributed much to the fulfillment of these objectives and to the overall goals of the Oceanic Game Fish Investigations.

The 1975 season was an excellent year for billfishing in the northern Gulf. A record 0.079 fish were caught per hour of trolling. This was the highest catch rate (catch-per-unit-of-effort) for any of the 5 years for which we have data. What appeared to be a declining fishery during the first three seasons was suddenly reversed in 1974 and continued to improve in 1975.

Data from several consecutive seasons have allowed us to make some inferences regarding this recreational fishery. We are able to: (1) compare the data and estimate the condition of this fishery, and (2) estimate possible trends in the fishery throughout the northern Gulf of Mexico. These comparisons illustrate the value of a continuing study and will be discussed later in this report.

With minor modifications, the collection, treatment and presentation of data in this report are basically the same as in previous reports. Attached to last year's report was a notice requesting suggested additions or deletions to the report. A number of readers took time to reply, suggesting some changes that would make the report more meaningful to them. In consideration of these suggestions and in talks with billfishing constituents some modifications were made.

We only analyzed data for five or more hours of fishing in the following studies: (1) number of billfishes hooked by time of day; (2) effects of boat size, engine type, and number of screws on the number of billfishes raised-per-hour-of-trolling; (3) effect of wind direction on fishing success (catch rate of billfishes); and (4) relative abundance of billfishes by area (ten-minute latitudes and longitudes).

All billfishing off the Texas coast is listed as Port Aransas data, except for the charts which show relative abundance by area. In previous years, all billfishing from ports along the Texas coast could be shown in the area off Port Aransas. This year the charts for the Texas coast were expanded to include areas south of Port Aransas from which we had sufficient data.

Tables 1-3 in previous reports, have been combined into Table 1. In addition, the reciprocal (hours-to-catch-one-fish) of catch-per-hour has been added to Table 1.

After several seasons of analyzing certain environmental (water color and conditions) and biological (bait preference) factors, it was determined, in general, that: (1) blue, open water provided the best billfishing; and (2) blue marlin preferred mullet, and white marlin and sailfish preferred bonito strip. These analyses were replaced with comparisons between the number of billfishes raised-per-hour-of-trolling and boat size, engine type, number of screws, and the comparison between catch rate and wind direction. These data are compared to those findings reported for 1971.

This year's report has a summary of the frequency of fishing trips of various time durations (e.g., 1.0-1.9 hr, etc.). In evaluating the economic importance of a fishery, it is often important to know how long (number of hours) most fishing trips are, as well as, average cost-per-trip. The frequencies of fishing trips by hourly periods are shown for the different areas and for all areas combined throughout the northern Gulf of Mexico.

Relative abundance values (low, mid, high) shown in the charts of the three major Gulf areas were determined for each species for each area. In previous reports, one value was determined for all species combined and for the entire northern Gulf area. This would, in general, benefit a person in evaluating billfishing throughout the northern Gulf of Mexico. However, to be more exact about the relative abundance of a species within an area, the symbols for low, mid, and high abundance represent values computed for that species within that area. This will permit anglers from each area to see where the best fishing occurred for each species and all billfishes combined. The numerical values listed enable comparisons to be made among the three areas, as well as comparing relative abundance from year to year.

Also included are a brief summary section, and certain data from other than billfishing sources. The summary will help many, who do not have time to go through the detailed analyses, to briefly learn general conclusions derived from the 1975 data. Some biological data (weight, sex) were obtained from people who caught billfishes while fishing for other species. These data were considered important contributions to the study of billfishes, and thus were included in these analyses.

CATCHES

The number of hours fished, the number of recorded catches (releases included), the catch-per-hour, and the number of hours to catch one fish are listed in Table 1. In 1975, 14,515 hr were spent billfishing. This was an increase of 3,073 hr or 27% over the previous four year's annual average. Along with a record number of hours fished, a record number of billfishes (1,141) were caught during this season. Of these, 13% (153) were landed in Panama City, 46% (528) in Destin, 6% (72) in Pensacola, 9% (99) in South Pass, and 25% (289) in Port Aransas. A very successful fishing tournament at Panama City contributed to this port having the highest catch rate (0.148 fish-per-hour-of-trolling) of all five ports. The catch rate at Destin

1975 SUMMARY FOR NORTHERN GULF OF MEXICO



HOURS TO
CATCH A ---

SIZE RANGE
(POUNDS)

SEX RATIO
(M:F)

PEAK
FEEDING
PERIODS

ABUNDANCE
COMPARED
TO 1974

111	25	34
119.0 - 561.0	35.0 - 88.0	1.0 - 84.3
1:3.5	1:2.1	1:1.6
6-7 P.M.	6-7 A.M. 10-12 Noon 5-7 P.M.	6-7 A.M. 10-12 Noon
Decreased	Increased	Increased

increased 35% over that of 1974, while those at Pensacola, South Pass, and Port Aransas decreased by 10%, 21%, and 17%, respectively, over their 1974 rates. For blue marlin, the highest catch rate (0.011) or the least hours to catch a fish (94.8) occurred at Destin. Panama City had the highest catch rate (0.117) or least effort (8.6 hr) for white marlin, while the best sailfishing (0.090 fish-per-hr or 11.1 hr-per-fish) occurred at Port Aransas. Combining data from the five ports, catches of white marlin were most numerous (0.040), followed by those of sailfish (0.029), and blue marlin (0.009).

Catch rates of billfishes in the northern Gulf of Mexico for 1971-1975 are shown in Figure 1. Fishing success declined during the first three years of study, then suddenly reversed itself in 1974 and continued increasing in 1975. For all species combined, the increased catch rates of white marlin and sailfish overcompensated for the decreased catch rate of blue marlin and resulted in the record catch rate. A cyclic pattern in the catch rates for these species may possibly be inferred from the comparison of several years data. If the catch rate of blue marlin peaked in 1974, this could suggest a 4-yr cycle. Catch rates of white marlin and sailfish might still increase and indicate a greater than 3-4-yr cycle. The combined catch rate may have a 3-yr or greater cycle.

WEIGHTS

For each area and all areas combined, the largest, smallest, and average weights for each of the three species are given in Table 2. The largest blue marlin (561 lb) was landed at Destin, and was the largest "blue" we had ever recorded at this port. The largest white marlin (88 lb) was also landed at Destin. The largest sailfish (84 lb) was weighed in at South Pass.

The average sizes for all three species for the seasons of 1971-1975 are shown in Figure 2. The average size for blue marlin in 1975 was 264 lb or 40 lb above the previous 4-yr average (224 lb). A decrease in catch-per-unit-effort (Fig. 1) in 1975 consisting of larger (average size) fish should be noted and future catches closely observed. If the 1976 catch rate increases or does not greatly decrease, the comparatively larger average size of blue marlin harvested this year could be part of a normal fluctuation about a 5-yr average (232 lb).

The average size white marlin was 54 lb in 1975. This was about the same size as the previous 4-yr average (55 lb). An increase in the catch-per-unit-effort (Fig. 1) for white marlin and a relatively stable average size indicates a healthy sport fishery for this species.

Weighed sailfish in 1975 averaged 43 lb. Increased catches (Fig. 1) of fish of similar size as the 1971-1974 average (45 lb) indicates a healthy sport fishery for this species, also.

SEX RATIOS

Sex ratios for all billfishes examined in 1975 are given in Table 3. For blue marlin, females outnumbered males in each area, and overall by more than 3:

This ratio was similar to, but higher than, those ratios for the past three seasons. For white marlin, females outnumbered males in each area, and in all areas combined. However, the ratio this season was only about two females to one male, not as high as last year's 3:1 (female:male) ratio. For all five areas combined, female sailfish outnumbered males less than 2:1, a ratio similar to last year's. As in 1974, male sailfish outnumbered female sailfish at Destin during the season.

HOOK RATE BY TIME OF DAY

Although billfishes have been known to strike at bare hooks and other items that, most likely, would not closely resemble food items, we still consider the number of fish hooked-per-hour-of-trolling as our best indicator of feeding activity. Figures 3-8 show the number of billfishes hooked-per-hour-of-trolling by hourly periods, and these rates are discussed as feeding activity.

For the northern Gulf of Mexico (Fig. 3), the hook rate for all species combined was greatest between 10 a.m. and 12 noon, with lesser peaks about 6 a.m. and 6 p.m. Blue marlin were most active during the 6 p.m. period. White marlin had three distinct periods: 6 a.m., 10 a.m. to 12 noon, and 5 to 7 p.m. Hook rate for sailfish was highest between 10 a.m. and 12 noon.

Off Panama City, billfishes fed most actively during the 10 a.m. period (Fig. 4). The highest hook rate for blue marlin occurred during the 6 p.m. period. White marlin exhibited greatest feeding activity during the 10 a.m. period, whereas sailfish most actively fed during the 2 p.m. period.

Off Destin, the hook rate for all billfishes was greatest during the 6 p.m. period (Fig. 5). The hook rate for blue marlin was highest during the 4 p.m. period, and white marlin had a very distinct 6 p.m. period of feeding activity. Sailfish had a slight peak in their feeding activity during the 5 p.m. period compared to the other times.

Off Pensacola, the peak activity for billfishes was during the 2 p.m. period, with slightly lesser peaks during the 6 a.m., 11 a.m., and 4 p.m. periods (Fig. 6). Blue marlin were most active during the 4 p.m. period. White marlin were about equally active during the 10 a.m., 2 p.m., and 4 p.m. periods. A peak activity for sailfish occurred during the 6 a.m. period. However, this figure resulted from one fish being hooked in 7 hr of fishing, and conclusions from these few data are questionable. More fishing occurred during the other periods of the day with about equal peaks occurring during the 9 a.m., 11 a.m., and 2 p.m. periods.

Off South Pass, the hook rate for all billfishes was highest during the 5 p.m. period, with a smaller peak occurring during the 2 p.m. period (Fig. 7). Blue marlin fed most actively during the 6 a.m. period, white marlin during the 5 p.m. period, and sailfish during the 3 p.m. period.

Off Port Aransas, billfishes fed most actively during the 11 a.m. period, with slightly lesser peaks during the 3 p.m. and 5 p.m. periods (Fig. 8). However, the 5 p.m. value resulted from one sailfish hooked in

5 hr of fishing and should be interpreted cautiously. Blue marlin and white marlin were hooked most frequently during the 3 p.m. period. With the exception of the sailfish already mentioned, these fish were most active during the 11 a.m. period.

EFFORT AND RELATIVE ABUNDANCE

Destin, as in the past, was the most active billfishing port throughout the northern Gulf of Mexico. Of the total effort sampled (14,514.8 hr), 34% was from Destin, 30% from South Pass, 20% from Port Aransas, 9% from Pensacola, and 7% from Panama City (Tables 1 and 4). Compared to 1974, billfishing activity increased from all ports except from Pensacola. Billfishing from Pensacola decreased 298.8 hr or 18% from the effort expended in 1974.

The relative abundance (number of fish raised-per-hour-of-trolling) of billfishes from each area for the entire season is given in Table 4. Even though blue marlin were not as abundant as last year, South Pass still had the highest abundance of this species. White marlin were raised most often out of Panama City. Port Aransas, as in past seasons, had the highest abundance of sailfish of all five areas. For all species combined, the greatest number of billfishes raised-per-hour-of-trolling occurred out of Panama City.

The relative abundance of billfishes in the northern Gulf of Mexico from 1971 to 1975 is shown in Figure 9. These relative abundances show a trend similar to the catch rates (Fig. 1). For all species combined, the relative abundance of billfishes was greatest in 1975. The increased abundances of white marlin and sailfish more than made up for the decrease in abundance of blue marlin, and resulted in a banner fishing season.

Monthly indices of relative abundance for the three species in the three major areas along the northern Gulf coast are shown in Figure 10. Off northwest Florida, blue marlin were slightly more abundant during the first half of the season than during the second half. White marlin were most abundant during August, with sailfish most abundant in September. Off South Pass, blue marlin exhibited a trend similar to northwest Florida's where greatest abundance occurred during the first half of the season. White marlin, as off the northwest Florida coast, were most abundant in August. Catches of sailfish were so sparse, this species was not noticeably abundant during any particular month. Off Port Aransas, the high abundance of blue marlin in March resulted from two fish raised in 7 hr of fishing. Otherwise, this species was about equally abundant during the rest of the season with highest rate in October. White marlin were most abundant in April. High abundances of sailfish occurred in September and October.

BILLFISHES RAISED, HOOKED, AND BOATED

Data on billfishes raised, hooked, and boated are presented in Tables 5-9. From the Panama City area, fishermen boated or released 89% (153) of the 172 fishes hooked (Table 5). Out of Destin, anglers boated or released

65% (528) of the 811 fishes hooked (Table 6). Off Pensacola, 46% (73) of the 157 fishes hooked were boated or released (Table 7). From South Pass, fishermen boated or released 45% (99) of the 218 fishes hooked (Table 8). From Port Aransas, fishermen boated or released 62% (289) of the 464 fishes hooked (Table 9).

Throughout the northern Gulf, blue marlin continued to be the hardest of the three species to boat (Tables 5-9). Of the 325 blue marlin hooked, 40% (131) were boated or released. As in previous seasons, white marlin were the second hardest to boat with 66% (586) boated or released of the 894 fish hooked. Sailfish were easiest to boat with 71% (425) boated or released of the 601 fish hooked.

EFFECT OF BOAT SIZE

The number of billfishes raised by various size craft was analyzed, as was done with the 1971 data. For each area and all areas combined, data on the number of hours trolled, number of billfishes raised, number of billfishes raised-per-hour-of-trolling, and number of hours trolled to raise one fish are shown in Table 10 by boat size in 10 ft categories.

For all areas combined, boats in the 10-19 ft category raised the most billfishes per hour of trolling. However, the few data in this category compared to the other size categories result in questionable conclusions. Among the other categories, relative abundances varied only slightly with no definite trend correlated to size. Therefore, there did not appear to be any definite relation between number of fish raised-per-hour-of-trolling and boat size. These findings concur with those results obtained from the 1971 data.

When data for the five areas were examined, the greatest number of fish raised-per-hour-of-trolling related to boat size varied from area to area. These data support the conclusions derived from all ports combined, and indicate other factors than boat size may be more important in the success of raising billfishes.

EFFECT OF NUMBER OF SCREWS AND ENGINE TYPE

Data on number of fish raised-per-hour-of-trolling for boats 20-29, 30-39, and 40-49 ft long having single or twin screws and with either inboard, outboard, or inboard-outboard engines are presented in Table 11. For all areas combined, the number of billfishes raised-per-hour-of-trolling related to boats with either single or twin screws varied inconsistently among boat sizes and engine types. Neither single nor twin screw categories were consistently high. In 1971, only boats 40-49 ft long were compared according to screw type, and it was found that the twin screw category had the highest number of fish raised-per-hour-of-trolling. Even though this occurred again in 1975 for these size boats, the irregularity of single and twin screw rates among the various size categories indicated neither single nor twin screw boats were consistently more effective in raising billfishes.

The number of billfishes raised-per-hour-of-trolling compared to engine type indicates findings similar to those for single or twin screw boats. No one type engine consistently raised more fishes than other engines. Variations in the number of fish raised-per-hour-of-trolling among engine types from area to area and for all areas combined, suggested engine type, as well as number of screws were not prime factors related to the number of billfishes raised-per-hour-of-trolling.

EFFECT OF WIND DIRECTION

Summarized data in Table 12 shows the effect of wind direction on fishing success (number of fish caught-per-hour-of-trolling) by area and for all areas combined. From Panama City, the greatest catch rate occurred with southerly winds. Fishing success from Destin was about equal during periods of southerly and variable winds. The best fishing from Pensacola occurred with easterly winds. From South Pass, the greatest catch-per-hour occurred with northerly winds. This concurred with findings from the 1968 and 1970 data from this port, although in 1970 the catch rate in southerly winds was almost as great as the northerly rate. From Port Aransas, fishing success during periods of northerly winds was distinctly greater than during the other periods. Throughout the northern Gulf, the greatest catch-per-hour occurred during periods of northerly winds.

FISHING TRIPS BY HOURLY PERIODS

The frequency of billfishing trips (mode) by hourly (1.0-1.9, 2.0-2.9, ---13 hr) periods is shown in Figure 11. These data were determined from the time when lines were put in the water to when they were removed (actual fishing time), and do not include "running times." From Panama City, Destin, Port Aransas, and all areas combined, the most frequent fishing time was 6.0-6.9 hr long. From Pensacola and South Pass, most billfishing trips consisted of 8.0-8.9 hr of fishing. In the northern Gulf of Mexico, 2,173 fishing trips resulted in 14,514.8 hr of billfishing, or an average of 6.7 hr of fishing per trip.

RELATIVE ABUNDANCE BY AREA

The relative abundances of billfishes by area are given in Charts 1-12. For each species in each area, an explanation of the symbols is given on the chart along with the actual number of fish-raised-per-hour-of-trolling in a square. The fishing areas are outlined in black with blank squares indicating no fish raised.

Off northwest Florida, the area fished in 1975 was reduced by more than 40% (37 vs. 63 squares) over that fished in 1974. Blue marlin were raised in 65% (24) of the area fished (Chart 1). In 1974, these fish were raised in 41% (26) of the area fished. Blue marlin were most abundant from about the 200-fathom line out, and were about equally abundant and equally distributed in both years. White marlin were raised in 68% (25) of the fishing area (Chart 2). In 1974, these fish were raised in 40% (25) of the area fished.

White marlin were most abundant northeast of the DeSoto Canyon area (squares F3-4, G3-4). This differed from the 1974 data, which showed these fish were most abundant within the Canyon area. Sailfish were raised in 70% (26) of the area fished compared to 32% (20) of the area fished in 1974 (Chart 3). Sailfish were most abundant to the east of the Canyon's tip. For all species combined (Chart 4), billfishes were raised in 86% (32) of the area fished. In 1974, billfishes were raised in 52% (33) of the fishing area. In 1975, billfishes were not only more abundant but also more widely distributed over the area fished.

Off South Pass, the area fished in 1975 was reduced 35% (44 vs. 68 squares) from that of 1974. In 1975, blue marlin were raised in 66% (29) of the area fished (Chart 5), compared to 49% (33) in 1974. The increased effort in a reduced area resulted in lower relative abundance of blue marlin and indicated these fish were not as concentrated as during the 1974 season. White marlin were raised in 61% (27) of the fishing area (Chart 6), compared to 1974 when these fish were raised in 44% (30) of the squares fished. In general, white marlin were more abundant directly off the mouth of the Mississippi in 1975 than in 1974. Sailfish were raised in 16% (7) of the area fished (Chart 7). In 1974, sailfish were raised in 18% (12) of the fishing area. The 1975 data showed these fish were less abundant and not as widely distributed as in 1974. For all species combined, billfishes were raised in 75% (33) of the area fished (Chart 8). In 1974, billfishes were raised in 51% (35) of the fishing area. The relative abundance of billfishes was about equal during both seasons, but in 1975 more fish occurred west of South Pass than in 1974.

Along the Texas coast, there were two primary areas of billfishing (Charts 9-12). The squares remain 10-minutes in size to allow comparisons with previous reports, but were renumbered (e.g., square T43 in 1974 is T117 in 1975) to include both areas. Blue marlin were raised in 69% (20) of the 29 squares fished off Port Aransas and in 21% (3) of the 14 squares fished off Port Isabel (Chart 9). In 1974, blue marlin were raised in 56% (15) of the 27 squares fished off Port Aransas. The distribution pattern was similar in both years with generally greater abundances of blue marlin occurring in areas farthest offshore of Port Aransas. White marlin were raised in 34% (10) of the area fished off Port Aransas and in 14% (2) of the area off Port Isabel (Chart 10). Off Port Aransas in 1974, white marlin were raised in 33% (9) of the area fished. In both years, white marlin were, generally, more abundant in farthest offshore areas. Sailfish were raised in 79% (23) of the squares off Port Aransas and in 86% (12) of the squares off Port Isabel (Chart 11). In 1974, sailfish were raised in 59% (16) of the area fished off Port Aransas. As in 1974, sailfish were, again, most abundant inshore of the 50-fathom line off Port Aransas. For all species combined, billfishes were raised in 100% (29) of the area off Port Aransas and in 86% (12) of the area off Port Isabel (Chart 12). In 1974, billfishes were raised in only 74% (20) of the squares off Port Aransas. As in 1974, billfishes generally were more abundant inshore of the 50-fathom line during the 1975 season.

OTHER INTERESTING FACTS

While collecting billfishing data in 1975, some other interesting facts were noted that have not yet been mentioned in this report.

1. Two longbill spearfish, Tetrapturus pfluegeri, were reported caught this season: At Destin, Capt. Royal Melvin brought a 20-lb spearfish in aboard the "Venture II"; at Panama City, during the Fourth Annual Captain's Tournament a 23-lb spearfish brought aboard the "Sunrise" comprised 1 of the 126 billfishes reported caught during this tournament.

2. At South Pass, a 665-lb bluefin was brought in aboard "Betty's Mink IV," and a 526-lb bluefin was brought in aboard the "Widow Maker." In 1972, catches of this species were reported in other publications, however, these are the first bluefin tuna since 1971 for which we have records. Several other bluefin tuna were hooked during the season by fishermen from this port.

3. Mr. Monty Lopez, our port sampler at Port Aransas, is working on a method to externally determine the sex of sailfish. Monty will continue in 1975 to collect data necessary for statistical validation of this method. Tim Hixon and Bill Green, big game fishermen, have been extremely helpful to Monty by providing assistance and boats for this study.

4. Two "Grand Slams" (catches of blue marlin, white marlin, and sailfish on one trip) were recorded this year. Capt. Steve Wilson of the "Shooting Star" and Capt. James Dockery of the "Pixie P," both fishing out of Destin, scored these catches.

ACKNOWLEDGMENTS

We are grateful for the cooperation given by the anglers, charter boatmen, and officers of sport fishing groups: Organizers of the Texas Championship Billfish Tournament, and the Boatman's Association, Port Aransas; Jesse Edmundson, Freeport; Russ Wilhour, Key Allegro; Walter Fondren, Port O'Conner; Organizers of the Texas International Fishing Tournament, Port Isabel; Herman "Dutch" Prager, Jr., and Harley Howcott, the New Orleans Big Game Fishing Club; Jim Nethery and Gin Arnold, the Mobile Big Game Fishing Club; Ed Kelly and John Walker, the Pensacola Big Game Fishing Club; Don Sharon and Arthur J. Bianco, the Fort Walton Beach Sailfish Club; Bill Bacon, the Destin Charter Boat Association; and "Put" Putnam, the Panama City Boatman's Association.

This season 3,067 pieces of data were collected by our port samplers. This increase of 44% over the 1974 season resulted from more effort by the same number of port samplers. In addition to their doing a fine job, I thank: Monty Lopez, Port Aransas, for his help in the compiling and computation of data; Joe Yurt, South Pass, for his diligence in the collection of spine samples; Leslie W. Touart, Jr., Pensacola, for his efforts in sampling at additional ports; Jay Ogle, Destin, for handling the busiest billfishing port on the Gulf; and William Fontaine, Panama City, for his assistance in data computation.

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TABLE 1.--NUMBER HOURS TROLLED, NUMBER OF RECORDED CATCHES, CATCH-PER-HOUR, AND NUMBER HOURS TROLLED TO CATCH ONE FISH, FOR BILLFISHES IN THE NORTHERN GULF OF MEXICO, 1975.

	Panama City	Destin	Pensacola	South Pass	Port Aransas	All Five Areas
Total Hrs. Fished	1,035.5	4,932.1	1,357.7	4,316.2	2,873.3	14,514.8
Number of Recorded Catches						
Blue Marlin	5	52	11	38	25	131
White Marlin	121	365	39	54	6	585
Sailfish	27	111	22	7	258	425
All Billfishes	153	528	72	99	289	1,141
Catch-Per-Hour						
Blue Marlin	0.005	0.011	0.008	0.009	0.009	0.009
White Marlin	0.117	0.074	0.029	0.013	0.002	0.040
Sailfish	0.026	0.023	0.016	0.002	0.090	0.029
All Billfishes	0.148	0.107	0.053	0.023	0.101	0.079
Hours Trolled to Catch A Fish						
Blue Marlin	207.1	94.8	123.4	113.6	114.9	110.8
White Marlin	8.6	13.5	34.8	79.9	478.9	24.8
Sailfish	38.4	44.4	61.7	616.7	11.1	34.2
All Billfishes	6.8	9.3	18.8	43.6	9.9	12.7

TABLE 2.--RECORDED WEIGHTS (POUNDS) OF BILLFISHES CAUGHT IN THE NORTHERN GULF OF MEXICO, 1975.

	Panama City	Destin	Pensacola	South Pass	Port Aransas	All five areas
Blue marlin						
Largest	356.5	561.0	295.8	503.0	540.0	561.0
Smallest	148.5	125.0	121.5	125.8	119.0	119.0
Average	264.2	267.8	199.0	274.5	265.9	263.8
White marlin						
Largest	77.3	88.0	78.0	83.5	65.0	88.0
Smallest	37.0	40.3	40.5	38.0	35.0	35.0
Average	51.5	55.0	54.1	59.4	51.1	54.4
Sailfish						
Largest	70.5	63.0	75.0	84.3	74.0	84.3
Smallest	1.0	1.5	33.3	35.2	2.5	1.0
Average	37.6	43.5	47.5	53.0	43.6	43.4

TABLE 3.--SEX RATIOS OF EXAMINED BILLFISHES CAUGHT IN THE NORTHERN GULF OF MEXICO, 1975.
(M = MALES; F = FEMALES)

	Panama City	Destin	Pensacola	South Pass	Port Aransas	All five areas
Blue marlin						
No. of M:No. of F	0:4	15:29	0:4	4:33	3:6	22:76
No. of M per one F	0	0.5:1	0	0.1:1	0.5:1	0.3:1
One M per No. F	0	1:1.9	0	1:8.3	1:2.0	1:3.5
White marlin						
No. of M:No. of F	32:53	22:47	10:18	10:36	0:1	74:155
No. of M per one F	0.6:1	0.5:1	0.6:1	0.3:1	0	0.5:1
One M per No. F	1:1.7	1:2.1	1:1.8	1:3.6	0	1:2.1
Sailfish						
No. of M:No. of F	9:17	28:15	4:10	1:4	19:50	61:96
No. of M per one F	0.5:1	1.9:1	0.4:1	0.3:1	0.4:1	0.6:1
One M per No. F	1:1.9	1:0.5	1:2.5	1:4.0	1:2.6	1:1.6

TABLE 4.--NUMBER OF BILLFISHES RAISED PER HOUR OF TROLLING (RELATIVE ABUNDANCE),
AND NUMBER OF HOURS TROLLED TO RAISE A FISH IN THE NORTHERN GULF OF
MEXICO, 1975.

PORT	NO. OF HOURS TROLLED	NO. OF FISH RAISED PER HOUR OF TROLLING HOURS TROLLED TO RAISE ONE FISH ()			
		Blue M.	White M.	Sailfish	All Billfish*
Northwest Florida	7,325.3	0.035 (29.0)	0.241 (4.1)	0.046 (21.9)	0.327 (3.1)
Panama City	1,035.5	0.025 (39.8)	0.298 (3.4)	0.044 (22.5)	0.368 (2.7)
Destin	4,932.1	0.034 (29.7)	0.252 (4.0)	0.042 (23.9)	0.331 (3.0)
Pensacola	1,357.7	0.045 (22.3)	0.161 (6.2)	0.061 (16.4)	0.281 (3.6)
South Pass	4,316.2	0.064 (15.7)	0.095 (10.5)	0.003 (359.7)	0.164 (6.1)
Port Aransas	2,873.3	0.033 (30.2)	0.011 (89.8)	0.228 (4.4)	0.273 (3.7)

*Includes unidentified billfishes raised.

TABLE 5.--HOURS TROLLED AND BILLFISHES RAISED, HOOKED, AND BOATED BY MONTH, PANAMA CITY, 1975.

MONTH	HOURS TROLLED	BLUE MARLIN			WHITE MARLIN			SAILFISH			UNIDENTIFIED BILLFISH	
		R	H	B	R	H	B	R	H	B	R	H
May	11.0	---	---	---	---	---	---	---	---	---	---	---
Jun	28.5	---	---	---	---	---	---	---	---	---	---	---
Jul	78.6	---	---	---	11	4	3	13	5	5	---	---
Aug	880.3	25	10	4	296	126	117	32	24	21	---	---
Sep	29.1	1	1	1	2	1	1	1	1	1	---	---
Oct	8.0	---	---	---	---	---	---	---	---	---	---	---
TOTAL	1,035.5	26	11	5	309	131	121	46	30	27	---	---
% of Raised			42.3	19.2		42.4	39.2		65.2	58.7	---	---
% of Hooked				45.5			92.4			90.0	---	---

R = Raised

H = Hooked

B = Boated (includes releases)

TABLE 6.--HOURS TROLLED AND BILLFISHES RAISED, HOOKED, AND BOATED BY MONTH, DESTIN, 1975.

MONTH	HOURS TROLLED	BLUE MARLIN			WHITE MARLIN			SAILFISH			UNIDENTIFIED BILLFISH	
		R	H	B	R	H	B	R	H	B	R	H
Apr	17.0	---	---	---	---	---	---	---	---	---	---	---
May	294.2	14	10	5	1	1	---	3	3	1	1	1
Jun	446.5	21	13	2	22	8	3	12	9	5	---	---
Jul	995.1	32	17	5	299	131	80	32	25	21	2	---
Aug	1,192.3	34	30	12	742	306	223	39	32	27	---	---
Sep	1,122.6	39	30	20	96	62	34	113	73	53	8	---
Oct	864.4	26	16	8	82	39	25	7	5	4	6	---
TOTALS	4,932.1	166	116	52	1,242	547	365	206	147	111	17	1
% of Raised			69.9	31.3		44.0	29.4		71.3	53.9		5.9
% of Hooked				44.8			66.7			75.5		

R = Raised

H = Hooked

B = Boated (includes releases)

TABLE 7. HOURS TROLLED AND BILLFISHES RAISED, HOOKED, AND BOATED BY MONTH, PENSACOLA, 1975.

MONTH	HOURS TROLLED	BLUE MARLIN			WHITE MARLIN			SAILFISH			UNIDENTIFIED BILLFISH	
		R	H	B	R	H	B	R	H	B	R	H
May	150.0	9	4	2	6	2	---	1	---	---	1	---
Jun	64.0	4	2	1	3	1	---	2	2	1	---	---
Jul	842.3	41	18	6	140	59	29	60	27	18	12	---
Aug	224.2	5	5	2	64	24	8	19	7	2	6	---
Sep	69.4	2	2	---	5	3	2	1	1	1	---	---
Oct	7.8	---	---	---	---	---	---	---	---	---	---	---
TOTALS	1,357.7	61	31	11	218	89	40	83	37	22	19	---
% of Raised			50.8	18.0		40.8	17.9		44.6	26.5		---
% of Hooked				35.5			43.8			59.5		

R = Raised

H = Hooked

B = Boated (includes releases)

TABLE 8.--HOURS TROLLED AND BILLFISHES RAISED, HOOKED, AND BOATED BY MONTH, SOUTH PASS,
1975.

MONTH	HOURS TROLLED	BLUE MARLIN			WHITE MARLIN			SAILFISH			UNIDENTIFIED BILLFISH	
		R	H	B	R	H	B	R	H	B	R	H
Apr	34.4	3	---	---	3	2	1	---	---	---	1	---
May	693.8	59	21	6	46	11	6	4	3	2	---	---
Jun	1,189.4	63	31	9	50	15	12	2	1	1	6	---
Jul	905.6	62	21	7	61	22	10	3	2	2	---	---
Aug	763.2	45	18	10	156	40	17	1	1	1	---	---
Sep	585.0	34	9	5	76	13	5	2	1	1	---	---
Oct	144.8	9	3	1	20	4	3	---	---	---	---	---
TOTALS	4,316.2	275	103	38	412	107	54	12	8	7	7	---
% of Raised			37.5	13.8		26.0	13.1		66.7	58.3		---
% of Hooked				36.9			50.5			87.5		

R = Raised

H = Hooked

B = Boated (includes releases)

TABLE 9.--HOURS TROLLED AND BILLFISHES RAISED, HOOKED, AND BOATED BY MONTH, PORT ARANSAS, 1975.

MONTH	HOURS TROLLED	BLUE MARLIN			WHITE MARLIN			SAILFISH			UNIDENTIFIED BILLFISH	
		R	H	B	R	H	B	R	H	B	R	H
Mar	6.7	2	2	2	---	---	---	---	---	---	---	---
Apr	5.0	---	---	---	1	1	1	---	---	---	---	---
May	148.5	6	4	1	---	---	---	6	4	1	---	---
Jun	853.9	49	30	13	8	2	1	25	13	8	---	---
Jul	863.1	20	17	6	17	14	3	89	77	63	---	---
Aug	509.0	4	1	---	5	3	1	54	40	30	1	1
Sep	391.5	7	6	2	1	---	---	382	210	130	---	---
Oct	95.6	7	4	1	---	---	---	99	35	26	---	---
TOTALS	2,873.3	95	64	25	32	20	6	655	379	258	1	1
% of Raised			67.4	26.3		62.5	18.7		57.9	39.4		100.0
% of Hooked				39.1			30.0			68.1		

R = Raised

H = Hooked

B = Boated (includes releases)

Table 10. NUMBER OF BILLFISHES RAISED-PER-HOUR-OF-TROLLING BY BOAT SIZE.

Boat size	10-19'	20-29'	30-29'	40-49'	50-59'	60-69'
Panama City						
Hours trolled	6.0	82.5	289.7	504.7	117.0	77.3
Billfish raised	---	1	87	228	39	29
Billfish raised-per-hour	---	0.012	0.300	0.452	0.333	0.375
Hrs. trolled to raise a fish	---	82.5	3.3	2.2	3.0	2.7
Destin						
Hours trolled	---	466.5	1,981.8	2,174.0	296.0	217.0
Billfish raised	---	98	560	845	96	45
Billfish raised-per-hour	---	0.021	0.283	0.389	0.324	0.207
Hrs. trolled to raise a fish	---	4.8	3.5	2.6	3.1	4.8
Pensacola						
Hours trolled	---	584.1	341.8	349.1	101.1	17.0
Billfish raised	---	150	107	98	26	2
Billfish raised-per-hour	---	0.257	0.313	0.281	0.257	0.118
Hrs. trolled to raise a fish	---	3.9	3.2	3.6	3.9	8.5
South Pass						
Hours trolled	---	766.3	2,021.5	1,717.0	77.2	62.5
Billfish raised	---	121	275	299	4	11
Billfish raised-per-hour	---	0.158	0.136	0.174	0.052	0.176
Hrs. trolled to raise a fish	---	6.3	7.4	5.7	19.3	5.7
Port Aransas						
Hours trolled	10.0	427.0	1,081.3	1,038.8	355.8	35.5
Billfish raised	8	100	381	191	66	27
Billfish raised-per-hour	0.800	0.234	0.352	0.184	0.185	0.761
Hrs. trolled to raise a fish	1.2	4.3	2.8	5.4	5.4	1.3
All Areas Combined						
Hours trolled	16.0	2,326.4	5,716.1	5,783.6	947.1	409.3
Billfish raised	8	470	1,410	1,661	231	114
Billfish raised-per-hour	0.500	0.202	0.247	0.287	0.244	0.279
Hrs. trolled to raise a fish	2.0	4.9	4.1	3.9	4.1	3.6

TABLE 11.--NUMBER OF BILLFISHES RAISED-PER-HOUR-OF-TROLLING FOR BOATS 20-29', 30-39', AND 40-49' LONG WITH OUTBOARD (O), INBOARD (I), OR INBOARD-OUTBOARD (IO) MOTORS OF SINGLE (S) OR TWIN (T) SCREWS.

Boat size		20-29'										30-39'				40-49'			
Number screws		S					T					S				T			
Motor type		O	I	IO	O	I	IO	I	IO	IO	I	IO	I	IO	I	IO	I	IO	I
Panama City																			
Hours trolled	-	-	-	26.5	56.0	-	-	-	-	-	-	-	-	259.7	30.0	-	-	504.7	-
Billfish raised	-	-	-	-	1	-	-	-	-	-	-	-	-	84	3	-	-	228	-
Billfish raised per hr	-	-	-	-	.018	-	-	-	-	-	-	-	-	.323	.100	-	-	.452	-
Hrs trolled to raise a fish	-	-	-	-	56.0	-	-	-	-	-	-	-	-	3.1	10.0	-	-	2.2	-
Destin																			
Hours trolled	5.0	-	-	212.6	101.3	50.3	80.3	-	-	-	-	-	-	1,981.8	-	164.5	2,009.5	-	-
Billfish raised	-	-	-	46	15	11	9	-	-	-	-	-	-	560	-	18	827	-	-
Billfish raised per hr	-	-	-	.216	.148	.219	.112	-	-	-	-	-	-	.283	-	.109	.412	-	-
Hrs trolled to raise a fish	-	-	-	4.6	6.8	4.6	8.9	-	-	-	-	-	-	3.5	-	9.1	2.4	-	-
Pensacola																			
Hours trolled	-	-	-	26.0	191.0	-	135.3	-	-	-	-	-	-	232.5	518.0	-	187.7	-	-
Billfish raised	-	-	-	6	67	-	19	-	-	-	-	-	-	72	6	-	66	-	-
Billfish raised per hr	-	-	-	.231	.351	-	.140	-	-	-	-	-	-	.310	.333	-	.352	-	-
Hrs trolled to raise a fish	-	-	-	4.3	2.9	-	7.1	-	-	-	-	-	-	3.2	3.0	-	2.8	-	-
South Pass																			
Hours trolled	-	-	-	-	-	65.5	585.3	76.9	-	-	-	-	-	1,630.4	-	-	1,656.4	-	-
Billfish raised	-	-	-	-	-	15	97	23	-	-	-	-	-	180	-	-	286	-	-
Billfish raised per hr	-	-	-	-	-	.229	.166	.299	-	-	-	-	-	.110	-	-	.173	-	-
Hrs trolled to raise a fish	-	-	-	-	-	4.4	6.0	3.3	-	-	-	-	-	9.1	-	-	5.8	-	-
Port Aransas																			
Hours trolled	18.5	46.5	10.0	42.5	74.5	10.5	-	-	-	-	-	-	-	957.3	-	-	995.8	-	-
Billfish raised	3	5	2	30	21	-	-	-	-	-	-	-	-	332	-	-	181	-	-
Billfish raised per hr	.162	.108	.200	.706	.282	-	-	-	-	-	-	-	-	.347	-	-	.182	-	-
Hrs trolled to raise a fish	6.2	9.3	5.0	1.4	3.5	-	-	-	-	-	-	-	-	2.9	-	-	5.5	-	-
All Areas Combined																			
Hours trolled	23.5	46.5	275.1	390.8	190.3	811.4	76.9	-	-	-	-	-	-	5,061.7	48.0	164.5	5,354.1	-	-
Billfish raised	3	5	54	113	47	125	23	-	-	-	-	-	-	1,228	9	18	1,588	-	-
Billfish raised per hr	.128	.108	.196	.289	.247	.154	.299	-	-	-	-	-	-	.243	.188	.109	.297	-	-
Hrs trolled to raise a fish	7.8	9.3	5.1	3.5	4.0	6.5	3.3	-	-	-	-	-	-	4.1	5.3	9.1	3.4	-	-

Table 12.--BILLFISHING SUCCESS IN THE NORTHERN GULF OF MEXICO IN RELATION TO WIND DIRECTION, 1975.

Area	Wind Direction				
	Northerly (340-70°)	Easterly (80-160°)	Southerly (170-240°)	Westerly (250-330°)	Variable (Calm incl.)
Panama City					
Hours fished	55.0	968.7	51.0	10.5	7.5
Number of fish caught	3	160	10	1	1
Catch-per-hour	.055	.165	.196	.095	.133
Destin					
Hours fished	701.9	1,284.9	1,480.0	254.1	1,401.4
Number of fish caught	98	155	269	45	256
Catch-per-hour	.140	.121	.182	.177	.183
Pensacola					
Hours fished	139.3	253.7	74.5	792.4	133.2
Number of fish caught	6	37	6	91	16
Catch-per-hour	.043	.146	.081	.115	.120
South Pass					
Hours fished	340.6	1,199.4	1,709.7	488.1	737.8
Number of fish caught	19	62	81	23	29
Catch-per-hour	.056	.052	.047	.047	.039
Port Aransas					
Hours fished	585.0	2,315.9	91.5	0.0	5.5
Number of fish caught	133	323	9	0	1
Catch-per-hour	.227	.139	.098	.000	.182
All Areas Combined					
Hours fished	1,821.8	6,022.6	3,406.7	1,545.1	2,285.4
Number of fish caught	259	737	375	160	303
Catch-per-hour	.142	.122	.110	.104	.133

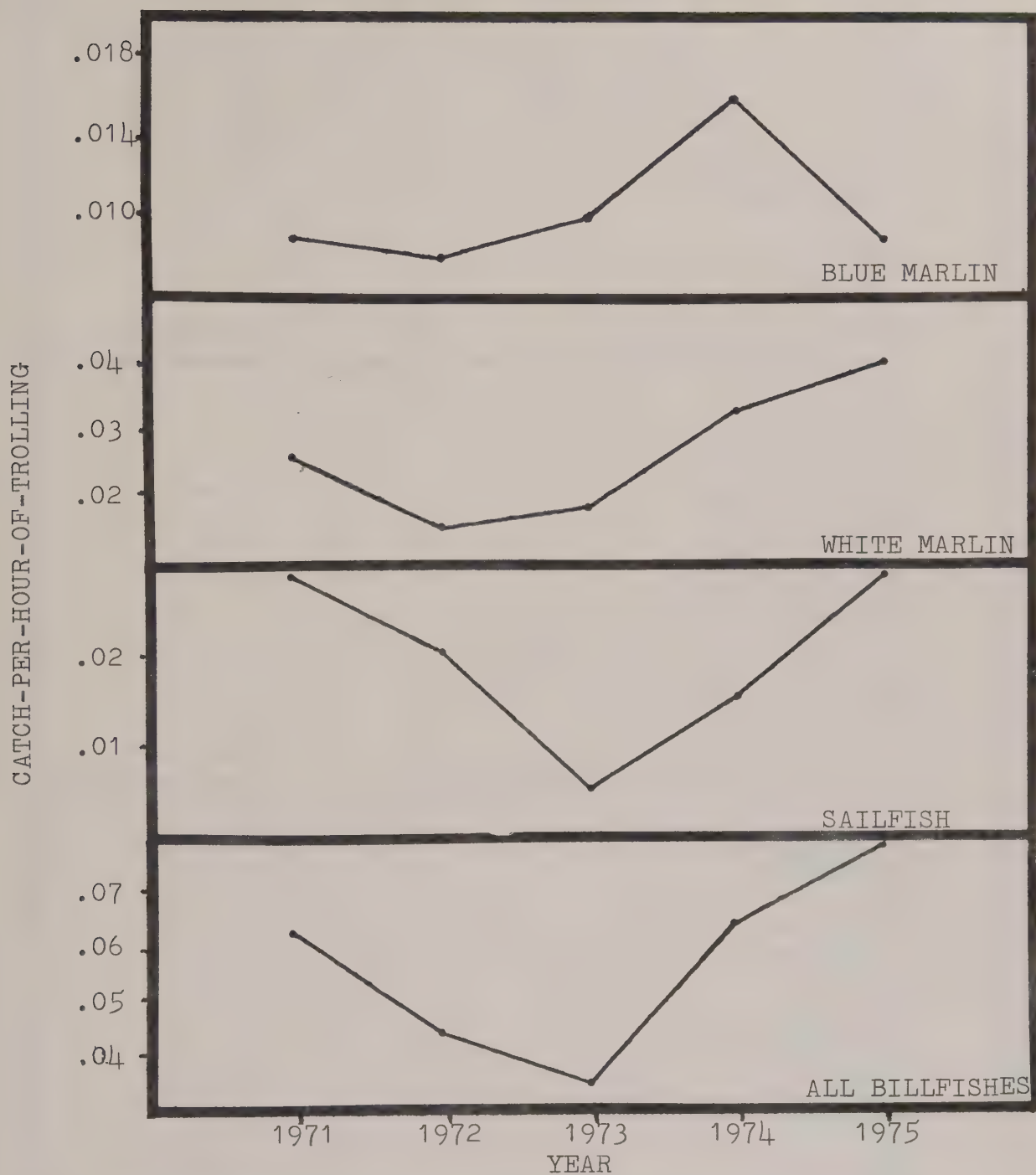


FIGURE 1. BILLFISH CATCH-PER-HOUR-OF-TROLLING IN THE NORTHERN GULF OF MEXICO, 1971-1975.

AVERAGE WEIGHT IN POUNDS

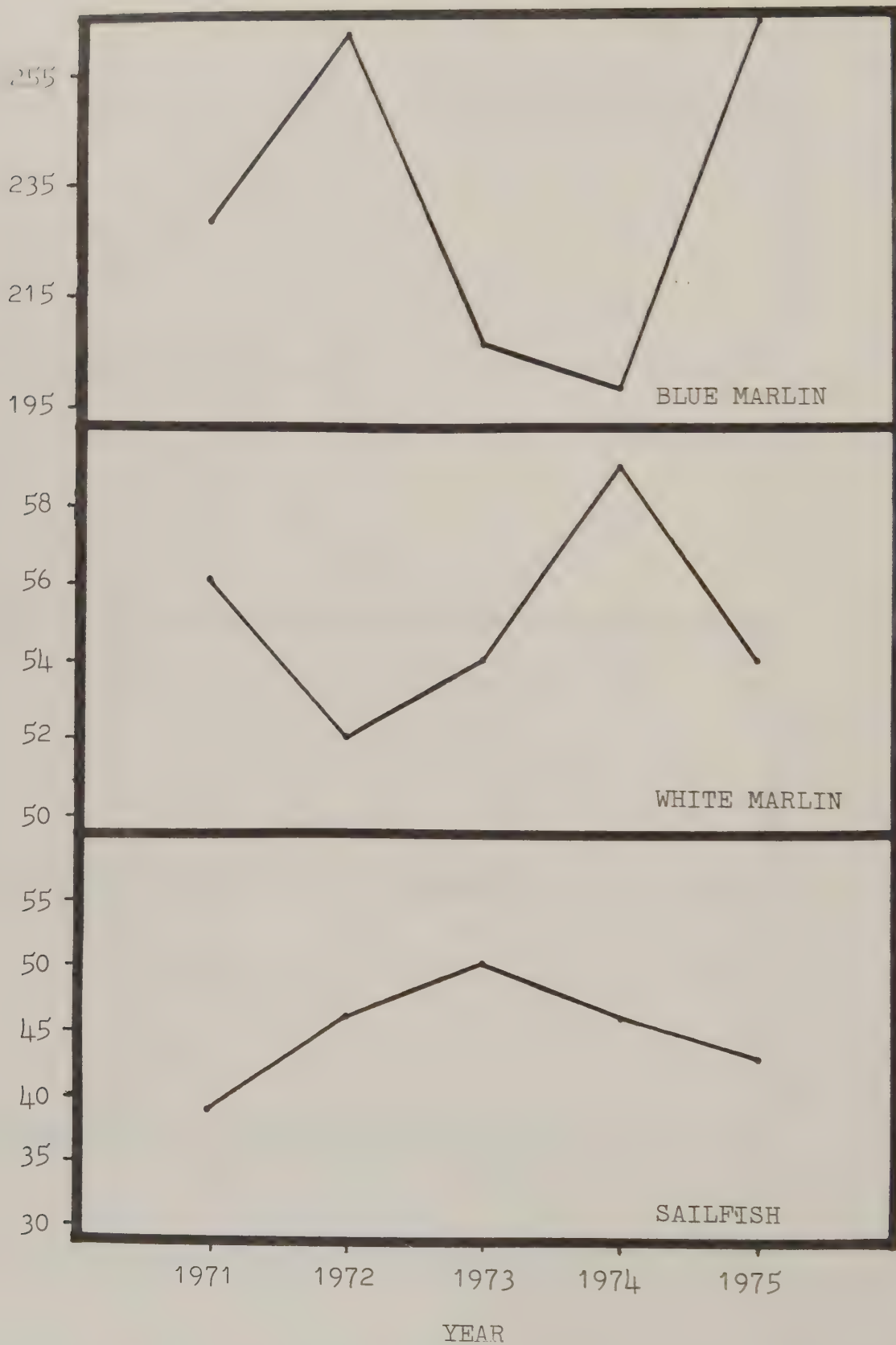


FIGURE 2. AVERAGE WEIGHTS (POUNDS) OF BILLFISHES IN NORTHERN GULF OF MEXICO, 1971-1975.

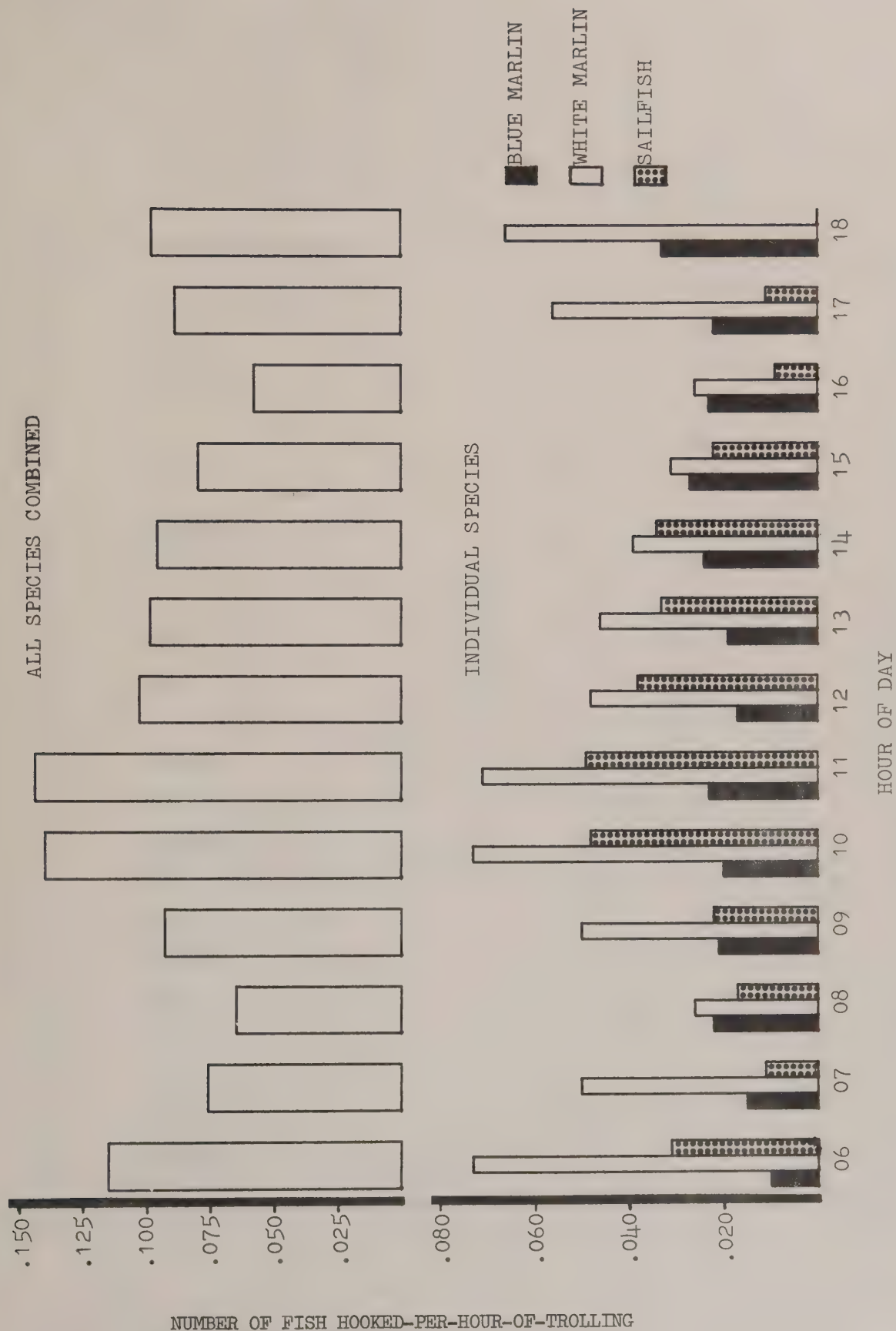


FIGURE 3. NUMBER OF BILLFISHES HOOKED-PER-HOUR-OF-TROLLING BY TIME OF DAY IN NORTHERN GULF OF MEXICO, 1975.

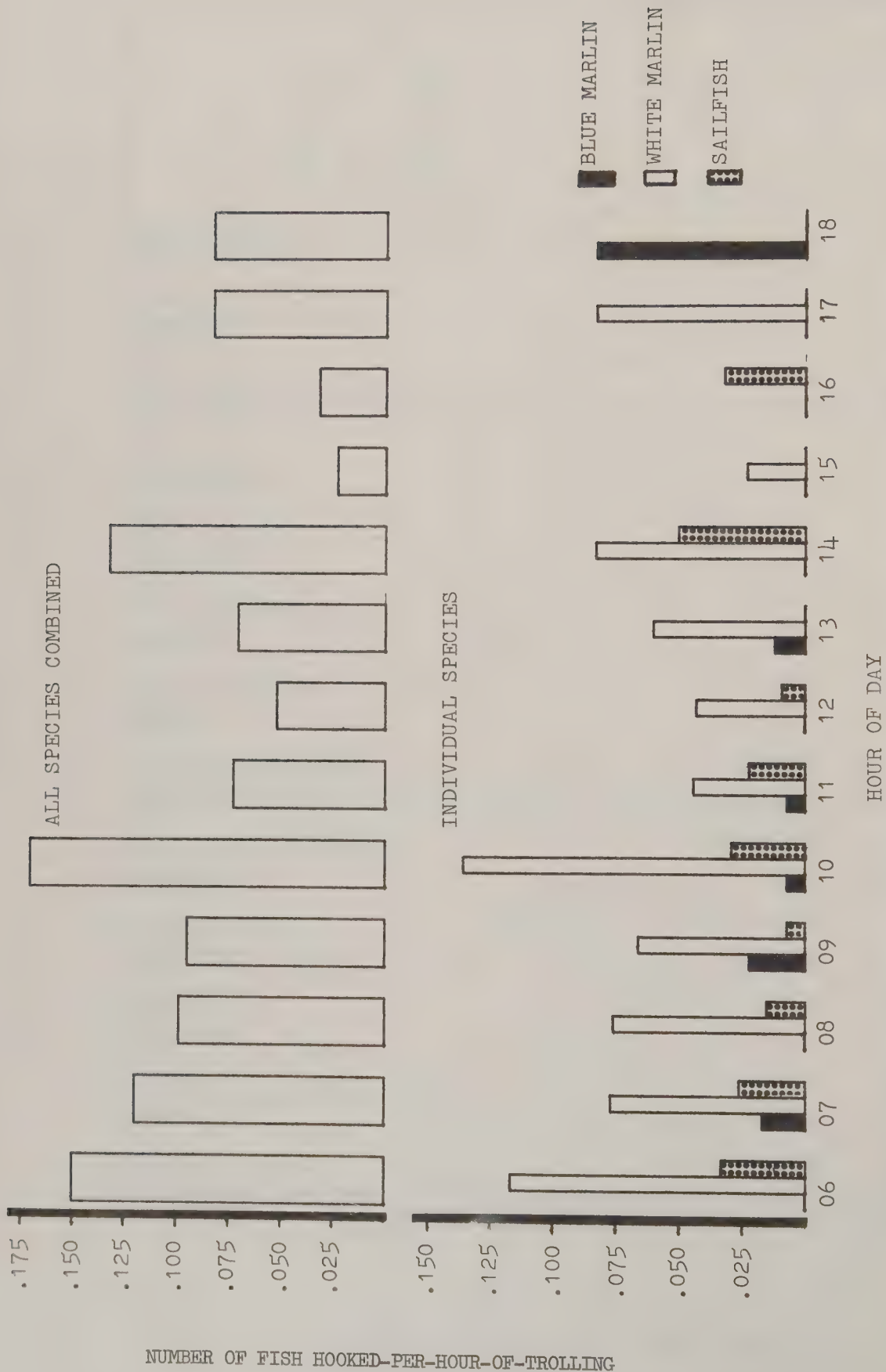


FIGURE 4. NUMBER OF BILLFISHES HOOKED-PER-HOUR-OF-TROLLING BY TIME OF DAY OFF PANAMA CITY, 1975.

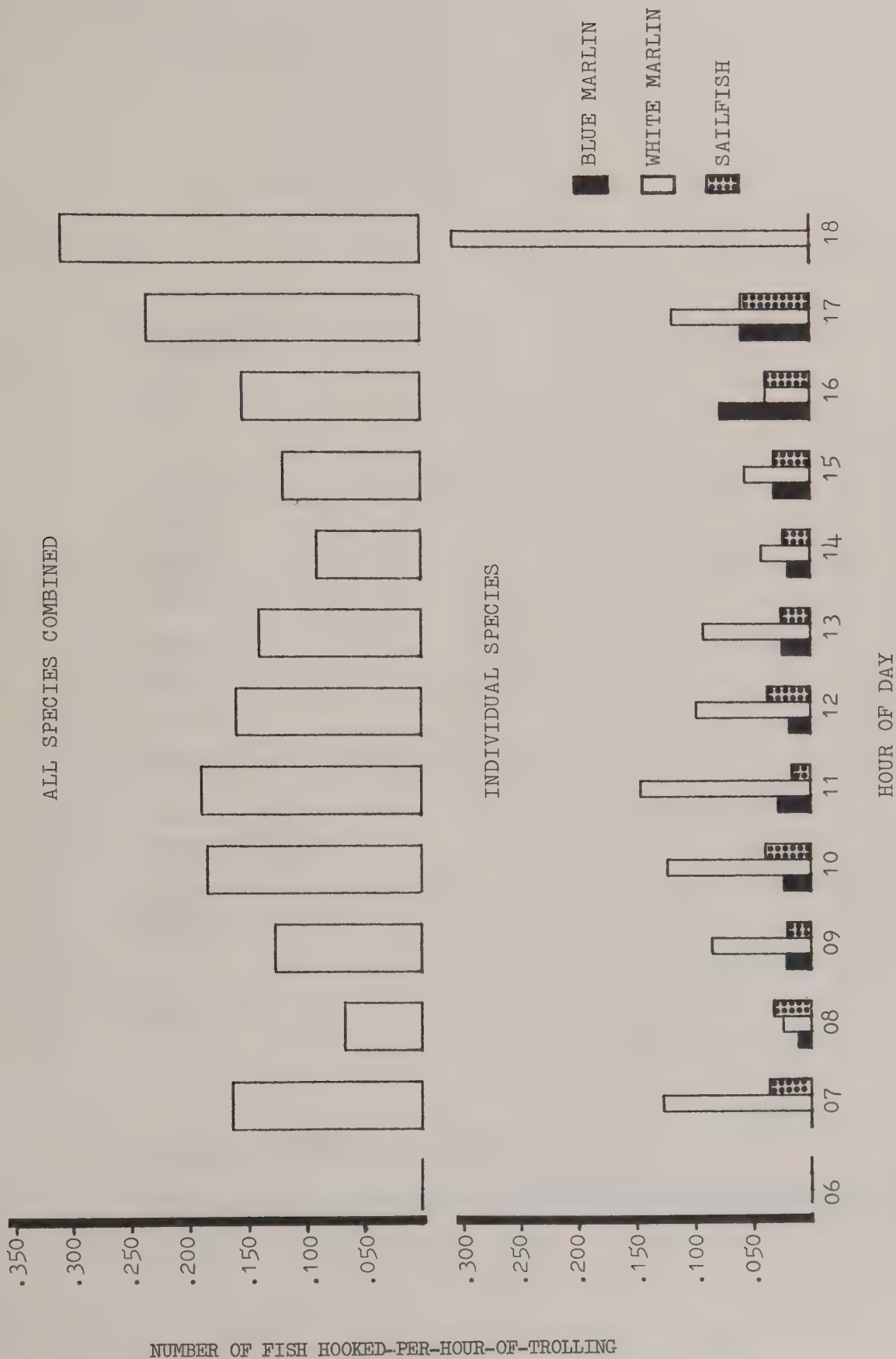


FIGURE 5. NUMBER OF BILLFISHES HOOKED-PER-HOUR-OF-TROLLING BY TIME OF DAY OFF DESTIN, 1975.

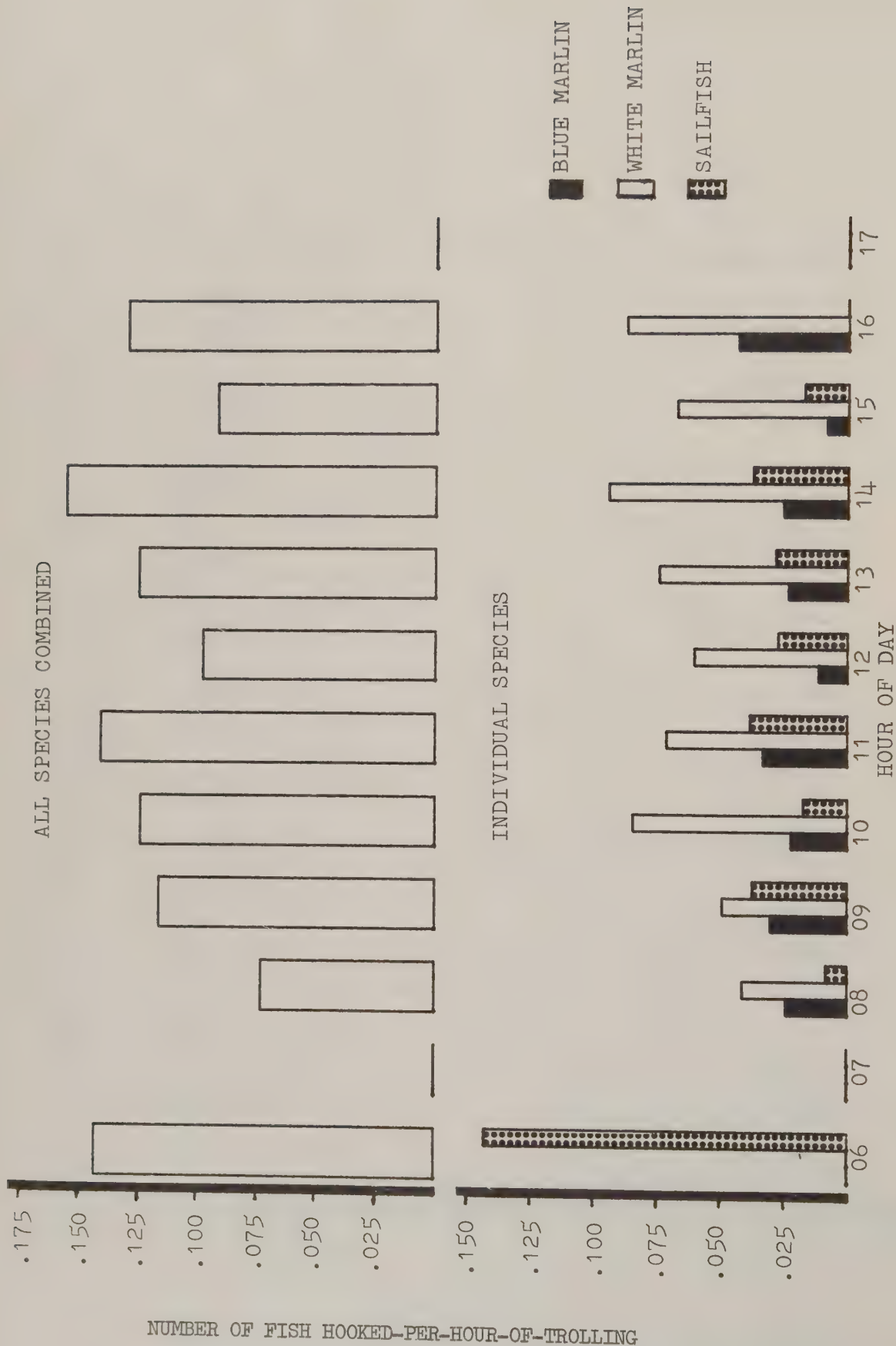


FIGURE 6. NUMBER OF BILLFISHES HOOKED-PER-HOUR-OF-TROLLING BY TIME OF DAY OFF PENSACOLA, 1975.

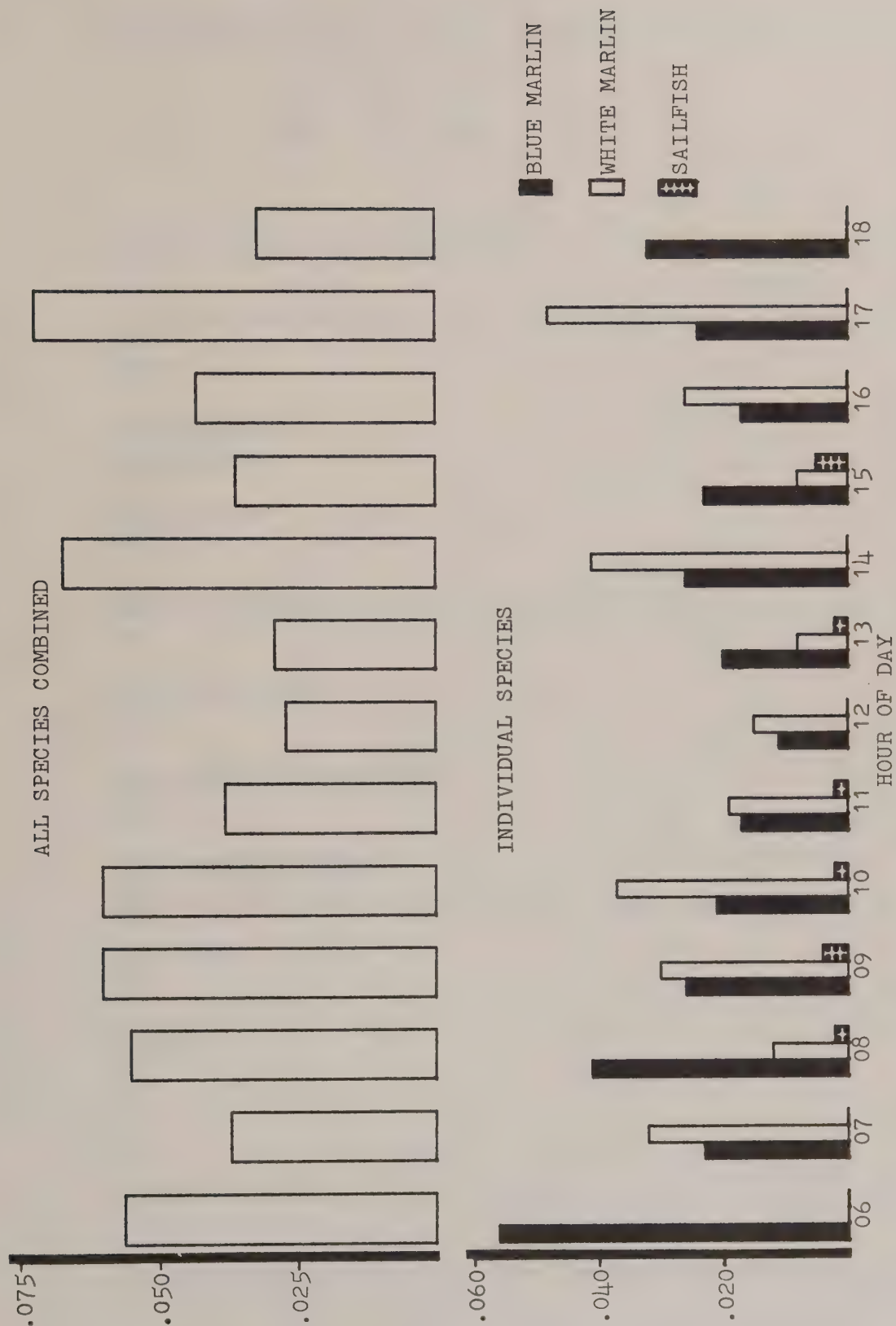


FIGURE 7. NUMBER OF BILLFISHES HOOKED-PER-HOUR-OF-TROLLING BY TIME OF DAY OFF SOUTH PASS, 1975.

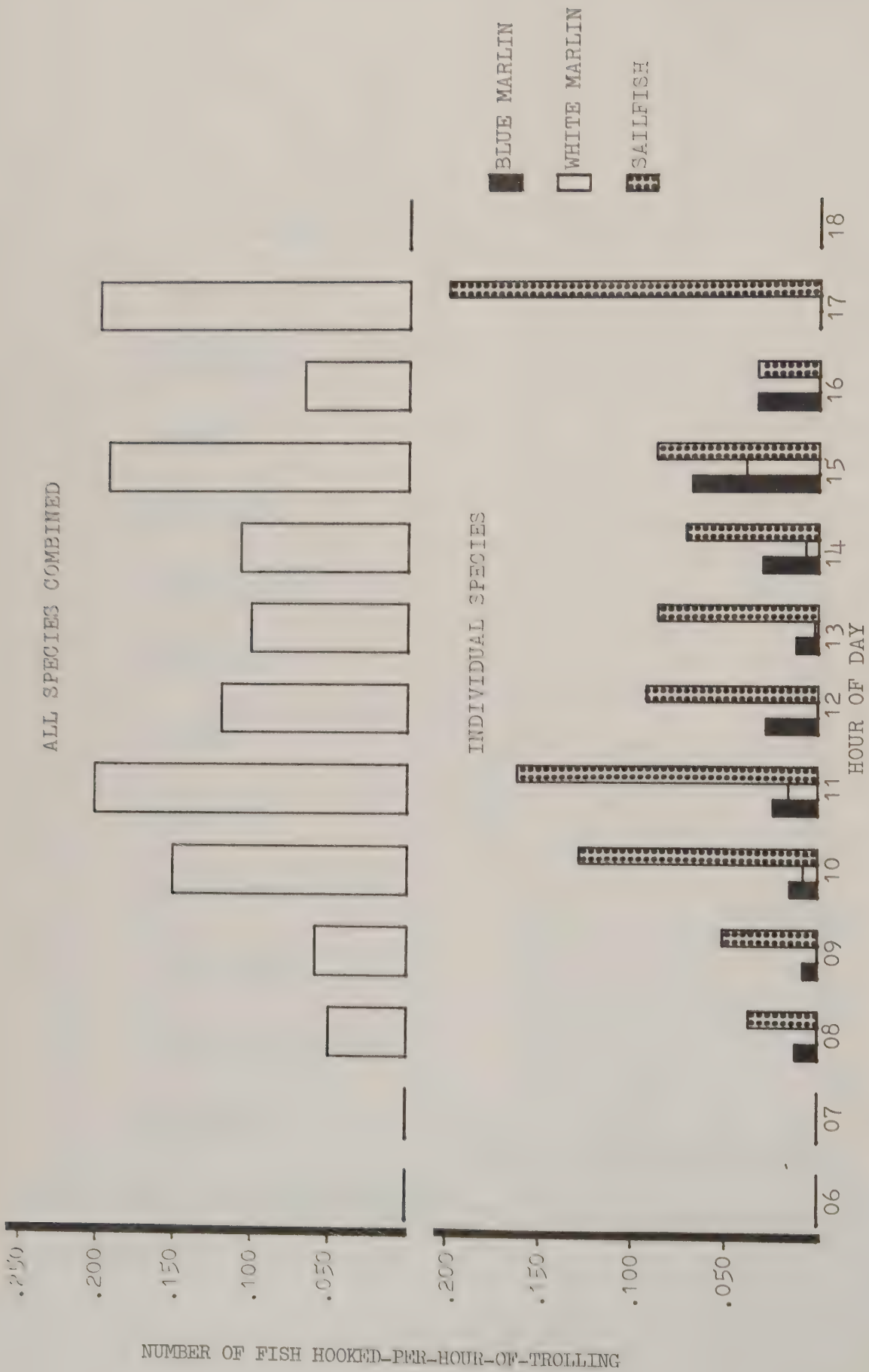


FIGURE 8. NUMBER OF BILLFISHES HOOKED-PER-HOUR-OF-TROLLING BY TIME OF DAY OFF PORT ARANSAS, 1975.

NUMBER OF FISH RAISED-PER-HOUR-OF-TROLLING

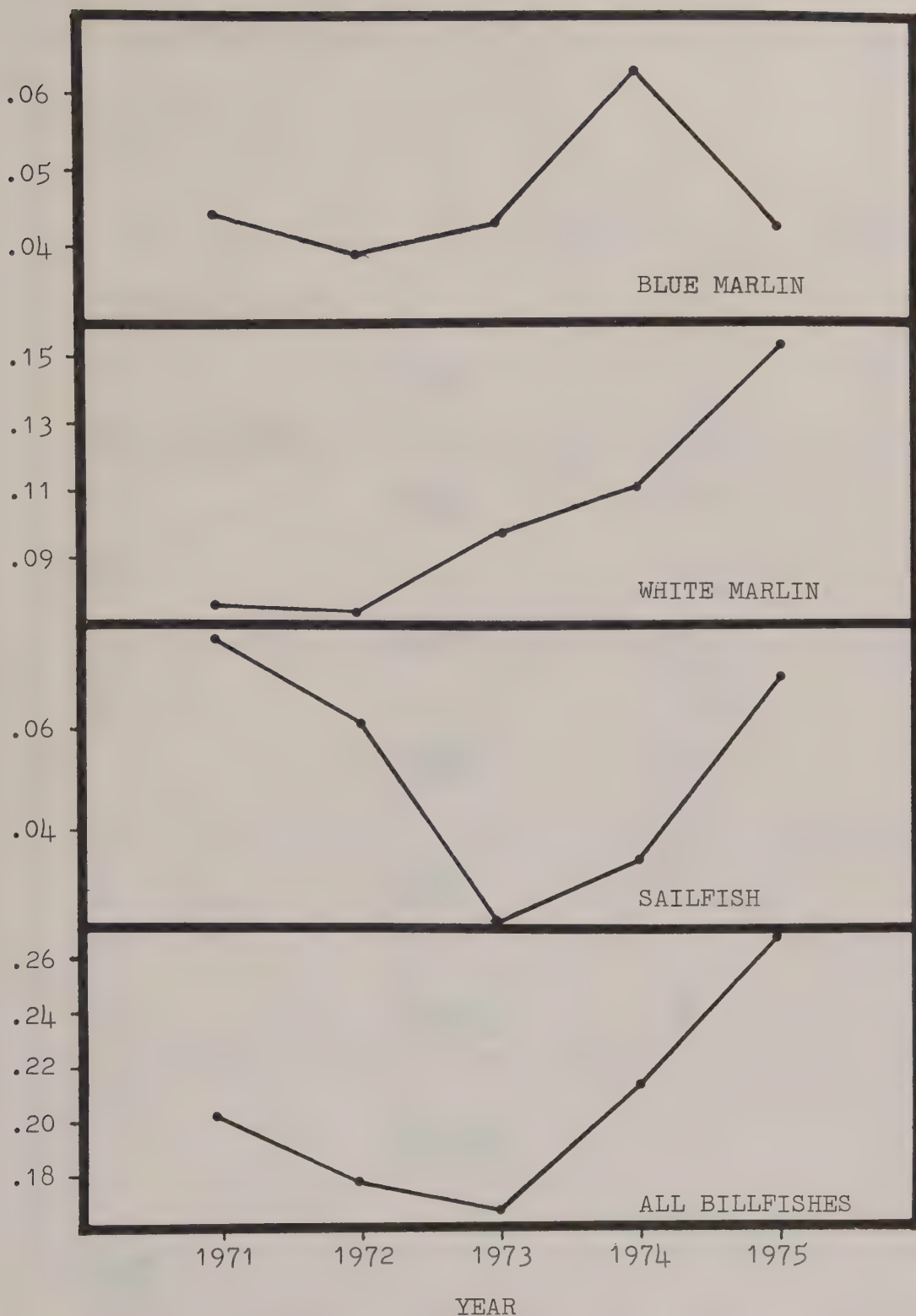


FIGURE 9. NUMBER OF BILLFISHES RAISED-PER-HOUR-OF-TROLLING IN THE NORTHERN GULF OF MEXICO, 1971-1975.

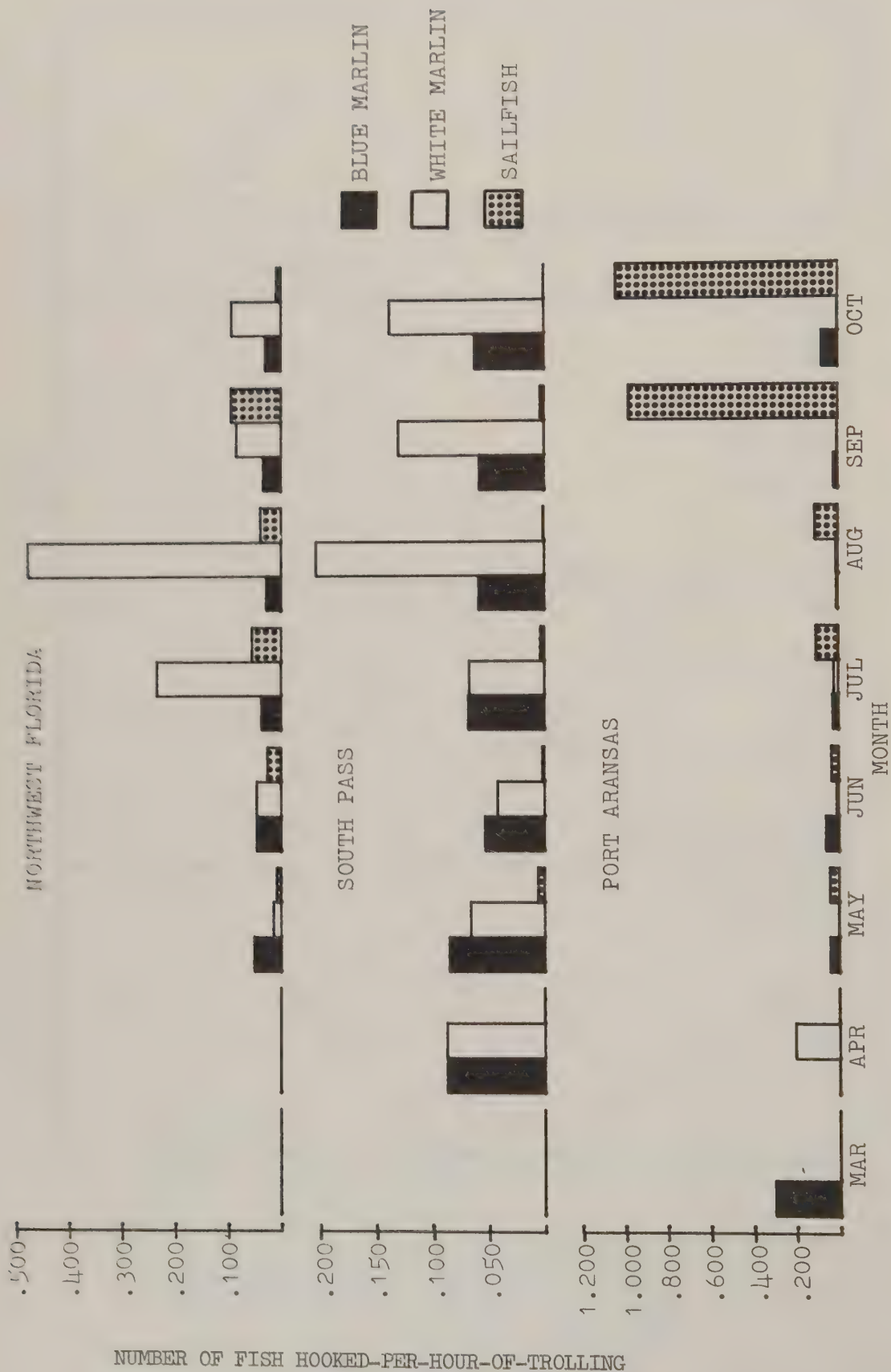


FIGURE 10. NUMBER OF BILLFISHES RAISED-PER-HOUR-OF-TROLLING BY MONTHLY PERIODS OFF NORTHWEST FLORIDA, SOUTH PASS, AND PORT ARANSAS, 1975.

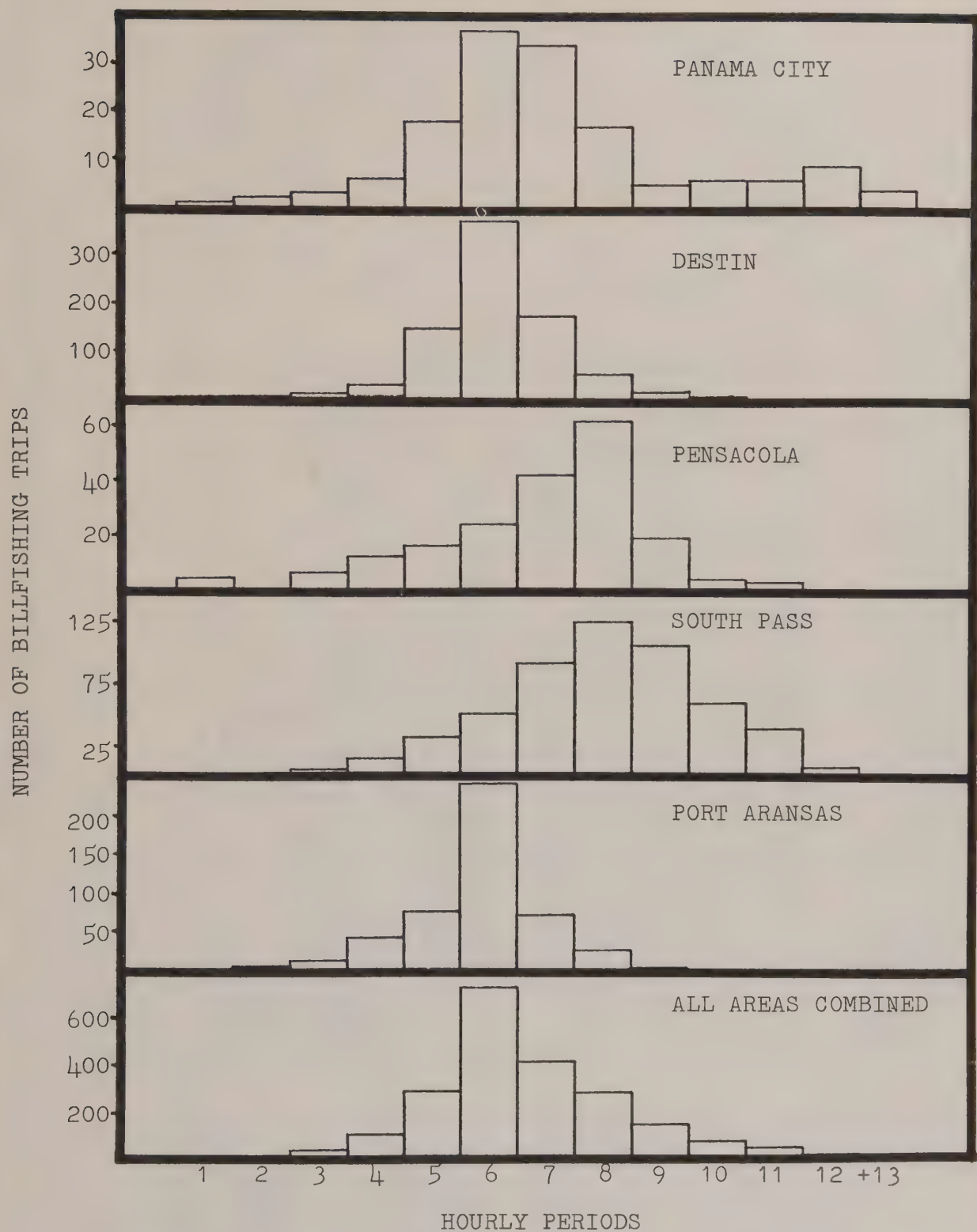
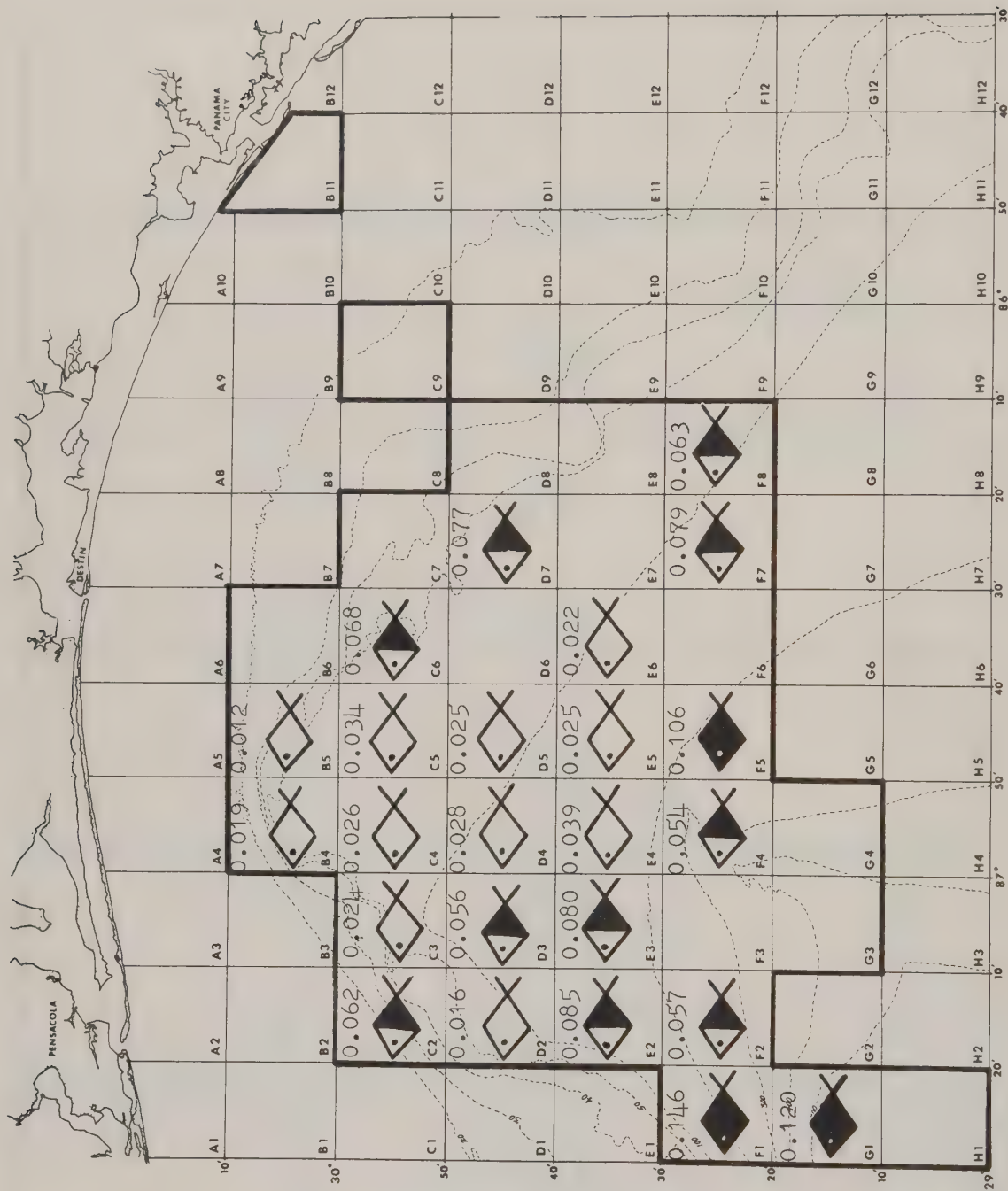


FIGURE 11. FREQUENCY OF FISHING TRIPS OF VARIOUS DURATIONS (NUMBER OF HOURS FISHED) IN THE NORTHERN GULF OF MEXICO, 1975.



LEGEND

Fishing areas bound by heavy black lines. No fish raised in squares without symbols.



0.001 to 0.050 fish raised-per-hour-of-trolling.



0.051 to 0.100 fish raised-per-hour-of-trolling.



0.101 or more fish raised-per-hour-of-trolling.

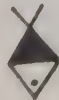
CHART 1. RELATIVE ABUNDANCE OF BLUE MARLIN OFF NORTHWEST FLORIDA BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

LEGEND

Fishing areas
bound by heavy
black lines.
No fish raised
in squares
without symbols.



0.001 to 0.360
fish raised-per-
hour-of-trolling.



0.361 to 0.720
fish raised-per-
hour-of-trolling.



0.721 or more
fish raised-per-
hour-of-trolling.

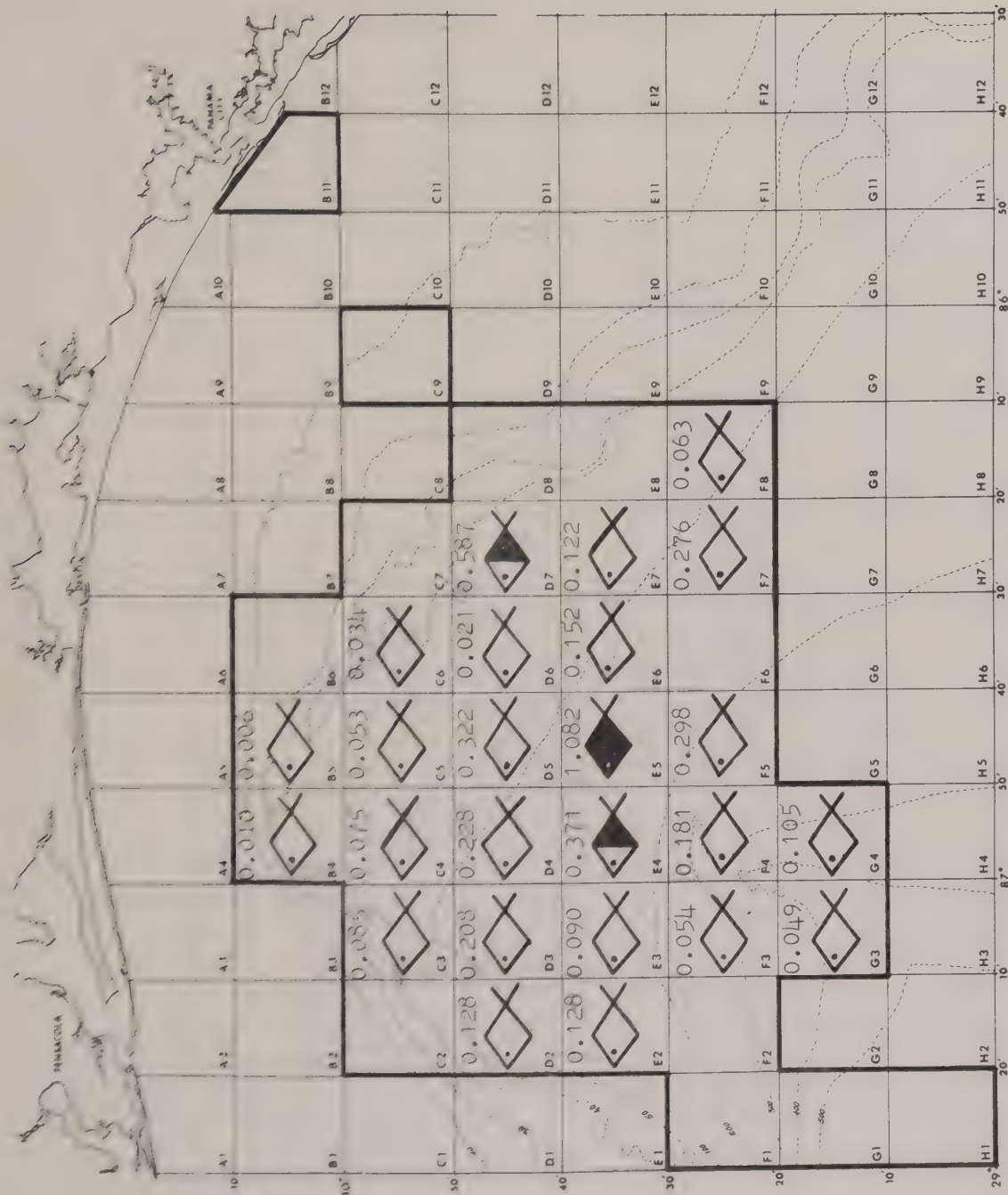


CHART 2. RELATIVE ABUNDANCE OF WHITE MARLIN OFF NORTHWEST FLORIDA
BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

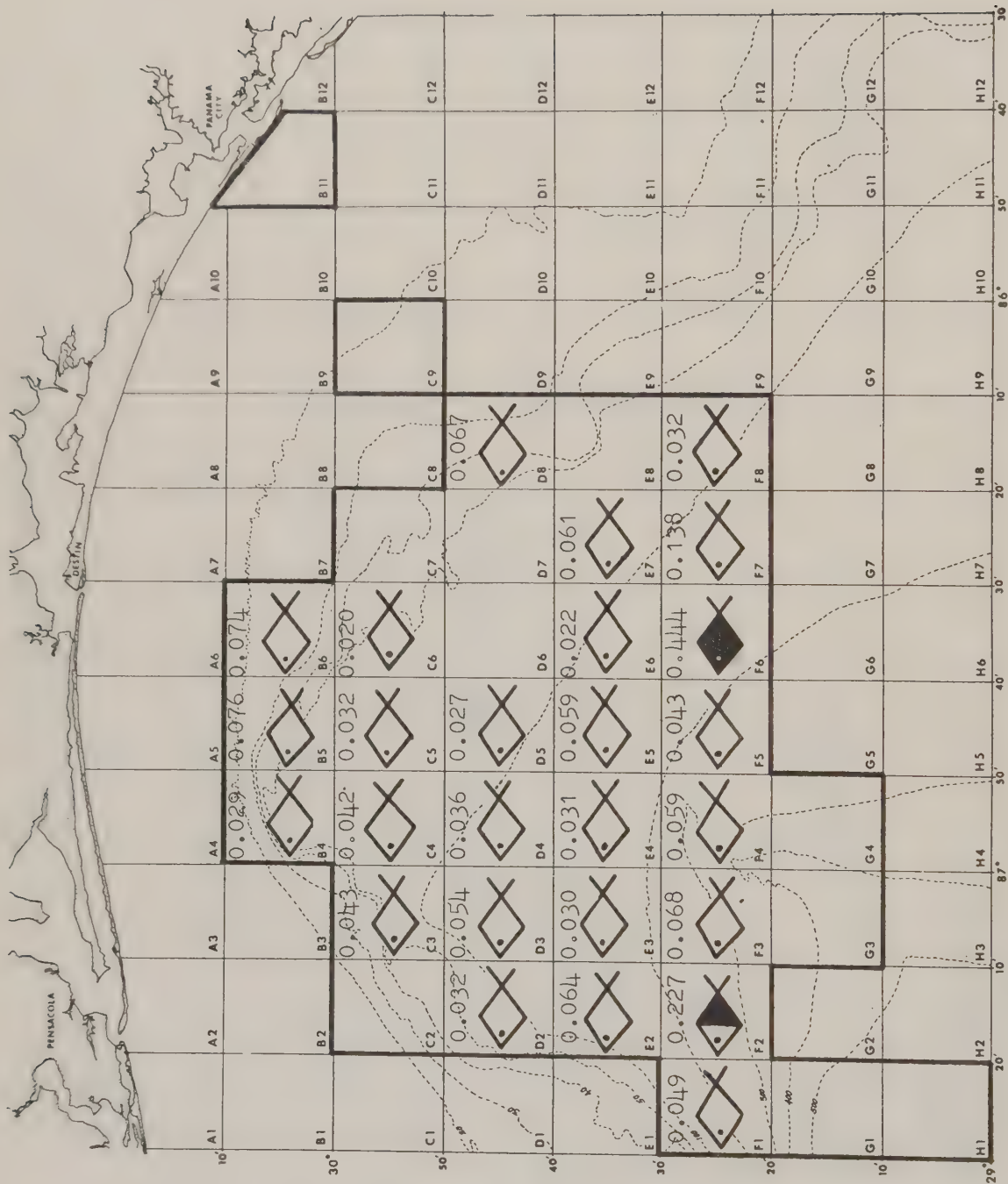


CHART 3. RELATIVE ABUNDANCE OF SAILFISH OFF NORTHWEST FLORIDA BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.



LEGEND

Fishing areas
bound by heavy
black lines.
No fish raised
in squares
without symbols.



0.001 to 0.390
fish raised-per-
hour-of-trolling.



0.391 to 0.780
fish raised-per-
hour-of-trolling.



0.781 or more
fish raised-per-
hour-of-trolling.

CHART 4. RELATIVE ABUNDANCE OF TOTAL BILLFISHES OFF NORTHWEST FLORIDA
BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

LEGEND

Fishing areas
bound by heavy
black lines.
No fish raised
in squares
without symbols.



0.001 to 0.100
fish raised-per-
hour-of-trolling.



0.101 to 0.200
fish raised-per-
hour-of-trolling.



0.201 or more
fish raised-per-
hour-of-trolling.

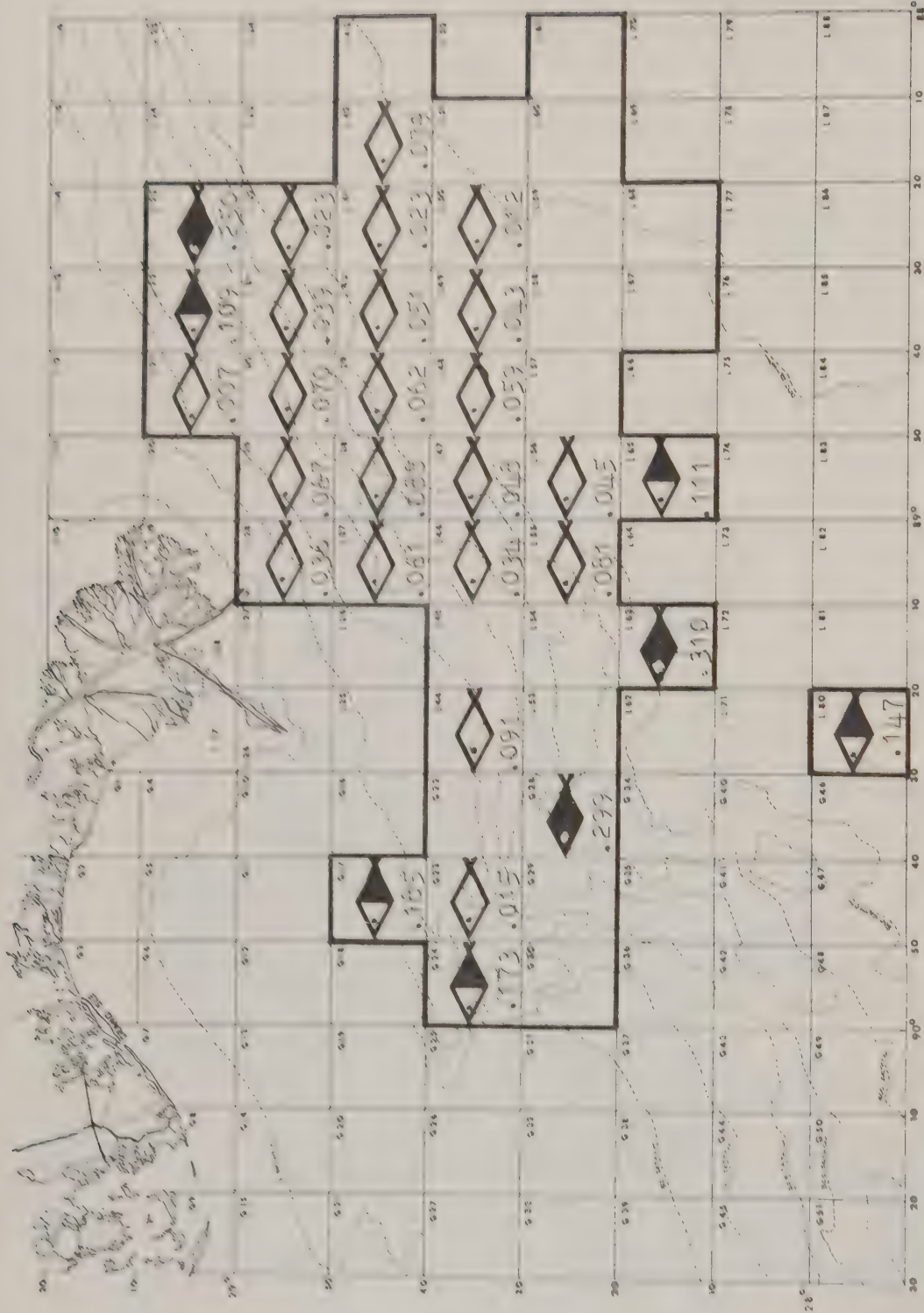


CHART 5. RELATIVE ABUNDANCE OF BLUE MARLIN OFF SOUTH PASS
BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

LEGEND

Fishing areas
bound by heavy
black lines.
No fish raised
in squares
without symbols.



0.001 to 0.050
fish raised-per-
hour-of-trolling.



0.051 to 0.100
fish raised-per-
hour-of-trolling.



0.101 or more
fish raised-per-
hour-of-trolling.



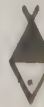
CHART 6. RELATIVE ABUNDANCE OF WHITE MARLIN OFF SOUTH PASS
BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

LEGEND

Fishing areas
bound by heavy
black lines.
No fish raised
in squares
without symbols.



0.001 to 0.010
fish raised-per-
hour-of-trolling.



0.011 to 0.020
fish raised-per-
hour-of-trolling.



0.021 or more
fish raised-per-
hour-of-trolling.



CHART 7. RELATIVE ABUNDANCE OF SAILFISH OFF SOUTH PASS
BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

LEGEND

Fishing areas
bound by heavy
black lines.
No fish raised
in squares
without symbols.



0.001 to 0.149
fish raised-per-
hour-of-trolling.



0.150 to 0.299
fish raised-per-
hour-of-trolling.



0.300 or more
fish raised-per-
hour-of-trolling.

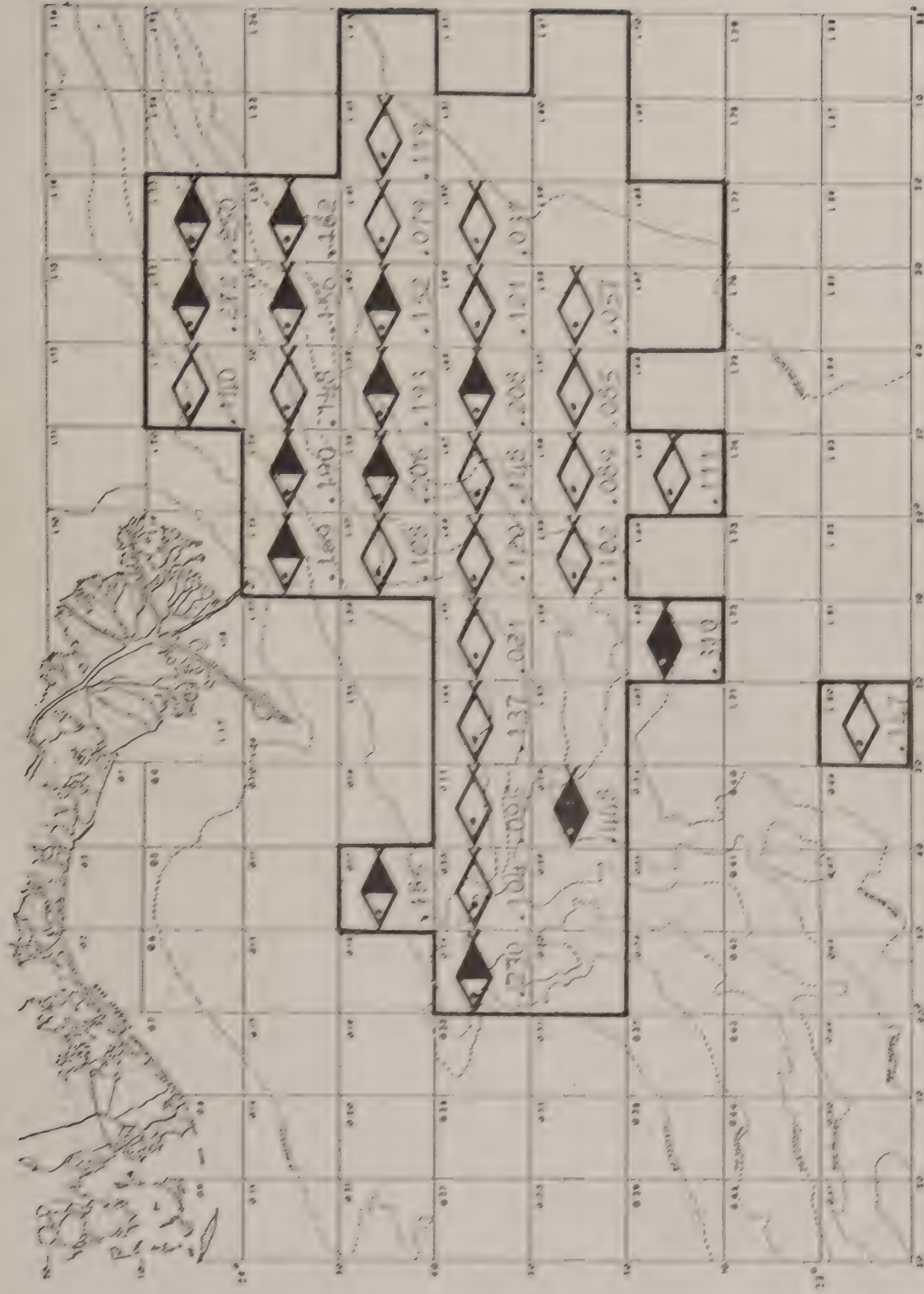
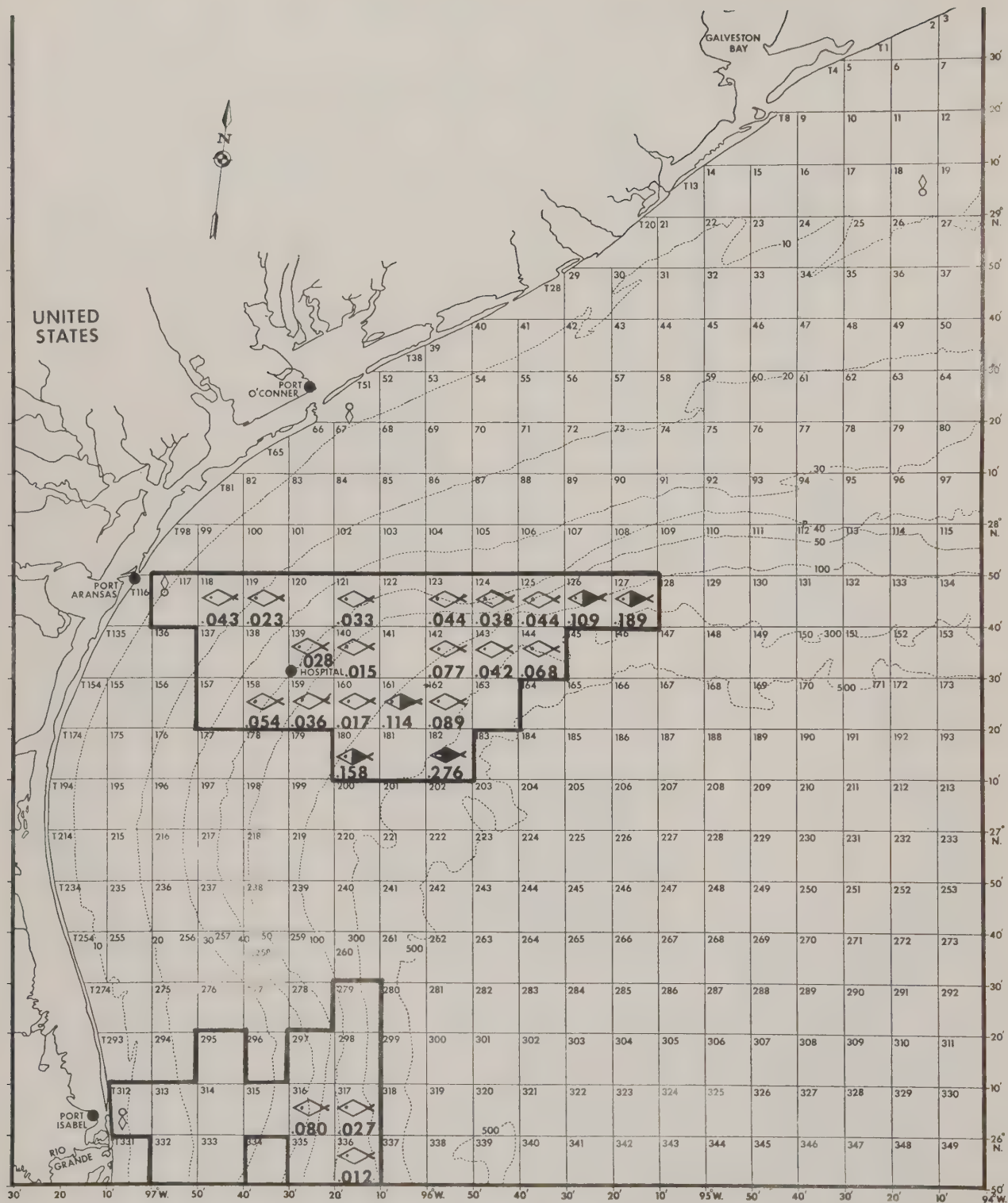


CHART 8. RELATIVE ABUNDANCE OF TOTAL BILLFISHES OFF SOUTH PASS BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.



L Fishing areas bound by heavy black lines.

E No fish raised in squares without symbols.

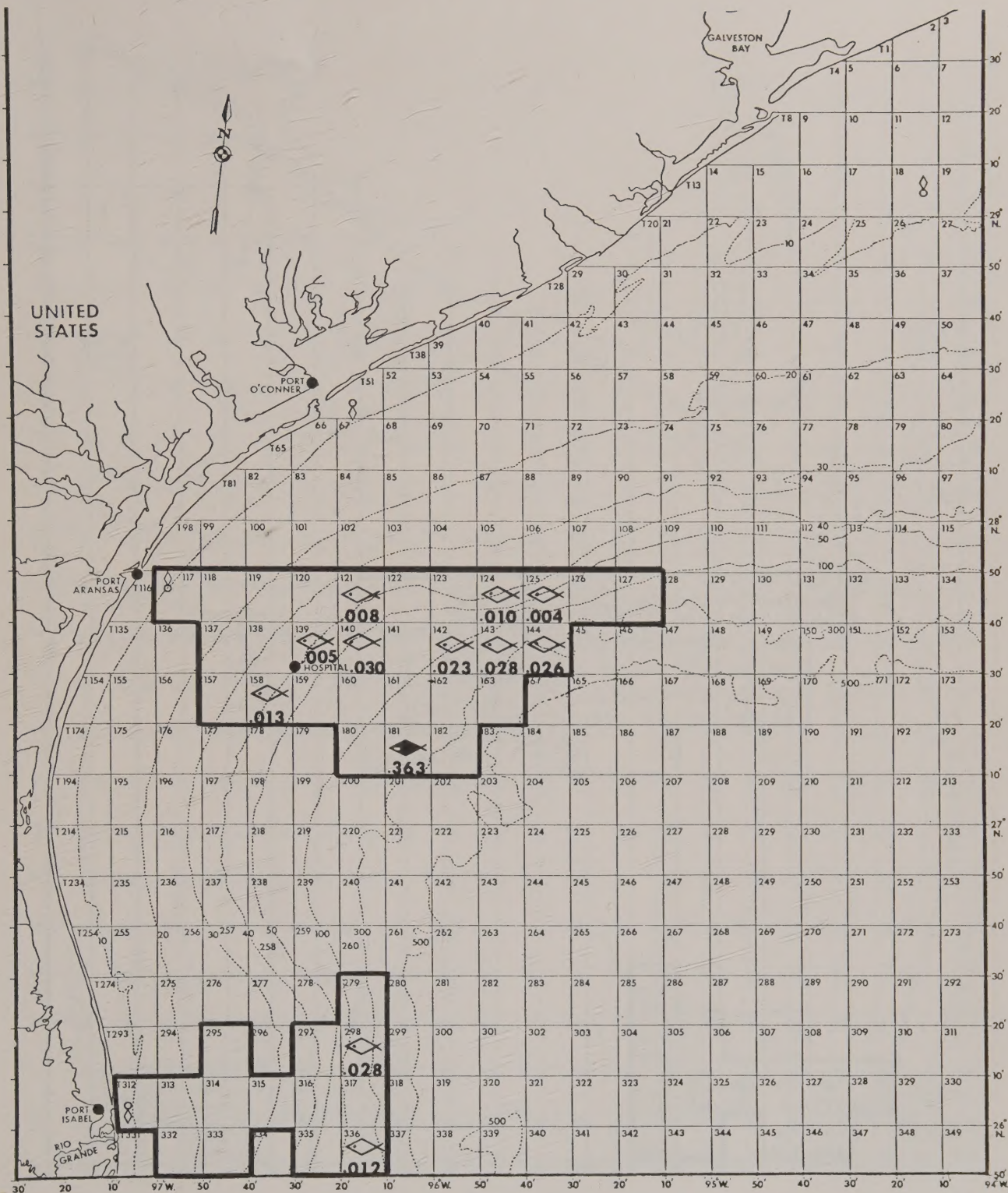
G

E

N

D

CHART 9. RELATIVE ABUNDANCE OF BLUE MARLIN OFF TEXAS COAST BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.



L Fishing areas 0.001 to 0.120 fish raised-per-hour-of-trolling.
 E bound by heavy 0.121 to 0.240 fish raised-per-hour-of-trolling.
 G black lines. 0.241 or more fish raised-per-hour-of-trolling.
 E No fish raised
 N in squares
 D without symbols.

CHART 10. RELATIVE ABUNDANCE OF WHITE MARLIN OFF TEXAS COAST BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

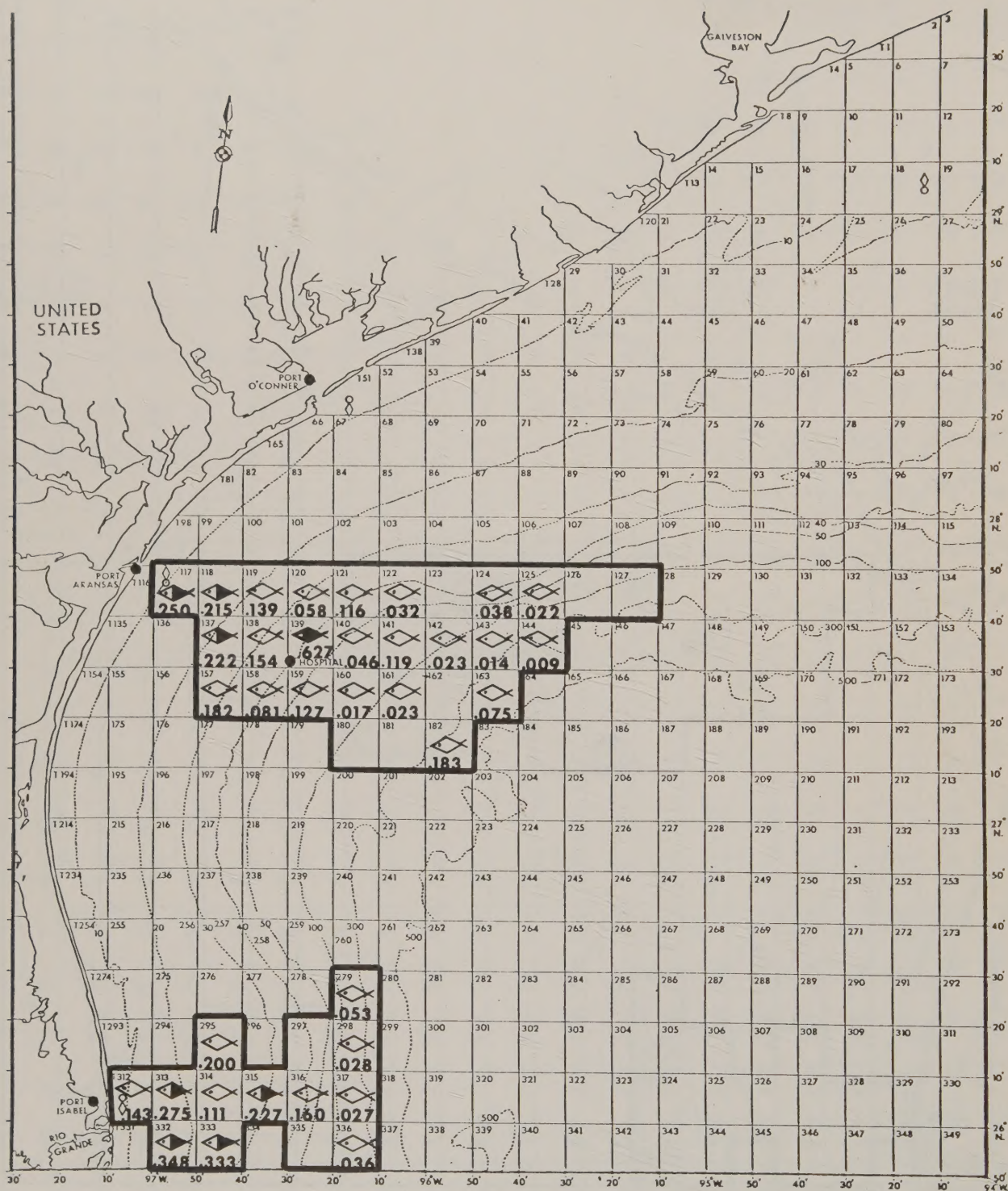
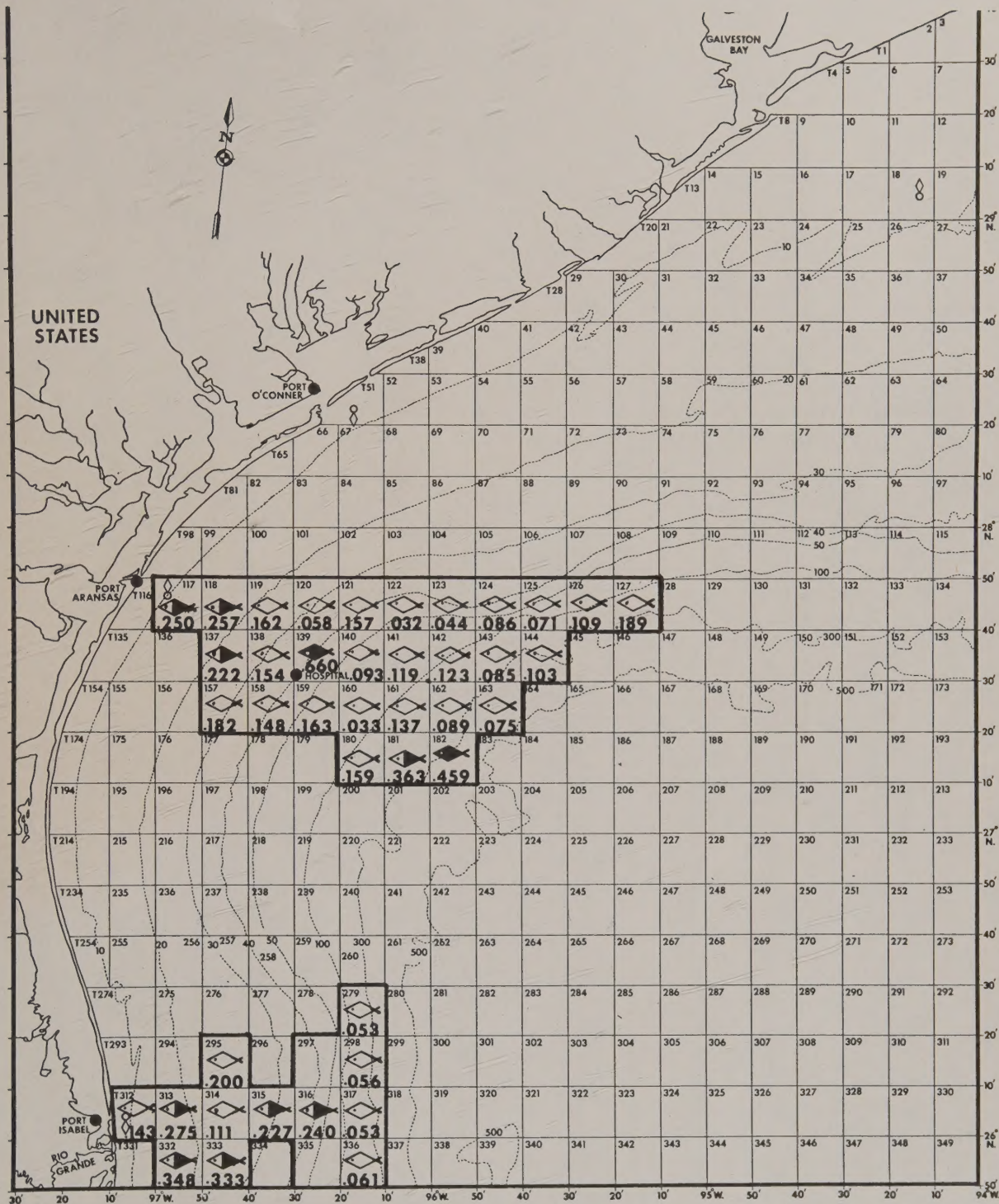


CHART 11. RELATIVE ABUNDANCE OF SAILFISH OFF TEXAS COAST BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.



L Fishing areas ◇ 0.001 to 0.220 fish raised-per-hour-of-trolling.
 E bound by heavy ◼ 0.221 to 0.440 fish raised-per-hour-of-trolling.
 G black lines. ◼ 0.441 or more fish raised-per-hour-of-trolling.
 E No fish raised ◻ 0.001 or more fish raised-per-hour-of-trolling.
 N in squares ◻ 0.001 or more fish raised-per-hour-of-trolling.
 D without symbols.

CHART 12. RELATIVE ABUNDANCE OF TOTAL BILLFISHES OFF TEXAS COAST BY TEN-MINUTE SQUARES FOR ENTIRE SEASON OF 1975.

